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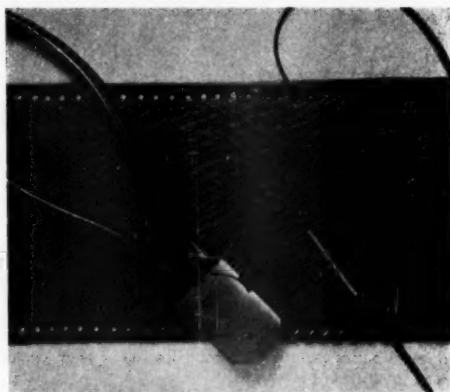
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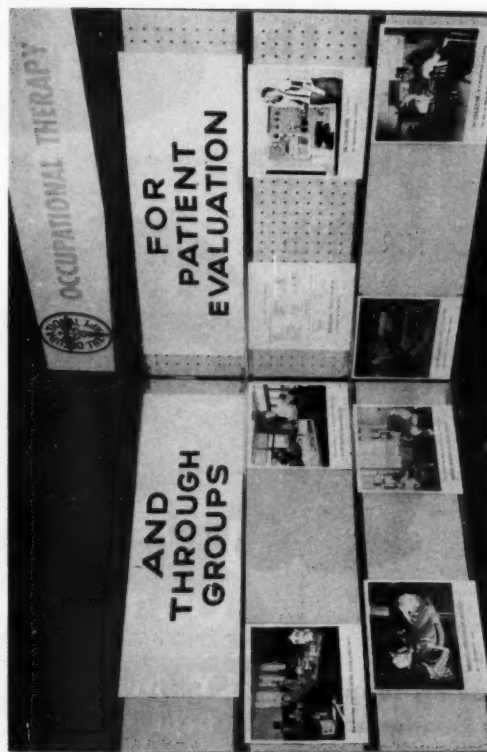
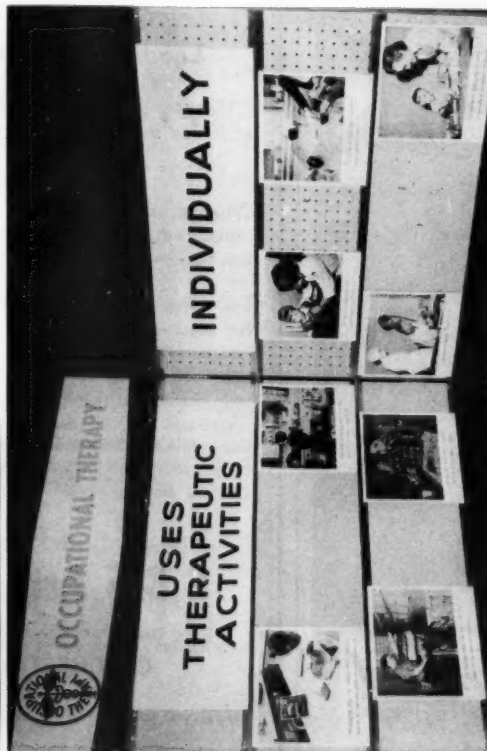
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New Exhibit

An exhibit prepared by a committee of Columbus, Ohio, occupational therapists for use at the Ohio state fair this past year. It is displayed on a new and especially designed board planned as a committee project by the Cincinnati District of the Ohio Occupational Therapy Association. The board is the property of OOTA and will be used throughout the State of Ohio with different exhibits in years to come. The four panels in this particular exhibit label four basic functions of occupational therapy and the pictures illustrate these. The captions for the photographs are listed beneath each section.



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1. The therapist ENCOURAGES the child as she learns to drink through a straw.
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AND THROUGH GROUPS

1. The playroom provides NORMAL SOCIAL EXPERIENCES.
2. The workshop is the setting for these men to WORK TOGETHER FOR A COMMON GOAL.
3. The committee meeting can be an effective LEARNING EXPERIENCE IN WORKING TOGETHER.
4. SUPERVISED COMPETITION CAN CONTRIBUTE to a therapeutic goal.

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1. A RATING FORM is used by therapists in evaluation of patients.
2. THE TRAINING BOARD is a means for appraising performance.
3. CREATIVE EXPRESSION, carefully interpreted, contributes to future treatment goals.
4. THE WORK TRY-OUT is a procedure valuable for use in vocational planning.

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THE AMERICAN JOURNAL of OCCUPATIONAL THERAPY

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A STRUCTURED PRE-VOCATIONAL PROGRAM

BERNARD ROSENBERG, M.A.*
THELMA WELLERSON, O.T.R., M.A.†

INTRODUCTION

Since the establishment of the Medical Facilities Survey and Construction Act of 1954, great emphasis has been placed on the development of pre-vocational evaluation programs. A number of these programs have been in operation at rehabilitation centers for several years. Despite this, there is a lack of adequate understanding as to the basic differences between a vocational evaluation and a pre-vocational program. The writers aspire to clarify the basic differences between these two programs as practiced at the Institute for the Crippled and Disabled.

A vocational evaluation is an accurate appraisal and measurement of a client's skills, dexterity, aptitudes and potentials for work. A vocational evaluation program is feasible primarily for handicapped individuals who need either a change or new occupation for eventual employment because of congenital diseases or injuries, industrial accidents, traumatic injuries and other acquired disabling factors. At the Institute for the Crippled and Disabled vocational evaluation is accomplished through the use of miniature job samples in a realistic work environment. This has emerged as the TOWER system.‡ The word TOWER is an abbreviation of "Testing, Orientation and Work Evaluation in Rehabilitation." The TOWER vocational evaluation program is part of the vocational rehabilitation service and is supervised by a vocational evaluator who reports to the director of the service.

A pre-vocational program is concerned primarily with the development of a client's work habits, work tolerance, coordination and productive speed. The type of client needing a pre-vocational program is one who either has never worked and does not know the meaning of work or one who has not worked for the past few years and needs help in developing proper work habits and productive speed. This program can

also be used to serve those who need help in adjusting to a work environment because of a lack of confidence, severe anxiety and fearfulness in new situations. At the Institute for the Crippled and Disabled this is known as the pre-vocational program which concentrates on improving a client's physical functioning and performance for eventual entrance into a vocational evaluation program. The pre-vocational program is medically oriented. It is conducted in the occupational therapy unit of the medical service by occupational therapists under the supervision of the service director who is a physician.

VOCATIONAL EVALUATION PROGRAM

At the Institute for the Crippled and Disabled the major objective of the TOWER vocational evaluation program is to assess a client's skills, aptitudes and potentials for trade or business training, sheltered workshop employment and outside job placement. TOWER vocational evaluation, through the miniature job approach, is an organized series of simulated realistic work situations where clients are exposed to the actual activity of the trade by utilizing basic hand tools, materials and apparatus. A client's performance is precisely measured from qualitative and quantitative criteria established from outside employment standards. Each occupational area is broken down into a number of components based on a job analysis of that area. At present the TOWER system includes a complete set of job sample tests representing 13 occupational areas. Scoring aids, response sheets, criteria and other materials covering a wide range of job families are included in each set. There are

*Director, vocational rehabilitation service, Institute for the Crippled and Disabled, New York City, N. Y.

†Director, occupational therapy department, Institute for the Crippled and Disabled, New York City, N. Y.

‡The TOWER system is a copyrighted development of the Institute.

more than 100 tests in each TOWER system at this writing. Further tests are being developed to broaden TOWER's application.

The Institute has developed job tests in clerical, skilled, semi-skilled and industrial assembly areas. They are: leather goods, jewelry, optical mechanics, drawing, messenger, receptionist, cable-harnessing, sewing machine, clerical work, bookkeeping, welding, drafting and bench assembly. A client who takes all the tests is exposed to more than a dozen machine operations and fifty different kinds of materials and supplies. When a client enters the TOWER vocational evaluation program, he spends three weeks in the performance of all job tasks that are or might be within his physical, emotional, intellectual and vocational capabilities. His performance is rated in five classifications: superior, above average, average, below average and inferior.

During the evaluation process, the client is tried at a number of jobs representing all phases for an occupational area. For example: to determine hand dexterity for jewelry work, a client is exposed to jewelry filing, tracing, piercing, plier work, cutting, soldering and polishing. Tasks in a specific occupation are presented in a gradual sequence from simple to complex. Once introduced, hand tools are utilized in succeeding tasks. If a client fails to perform effectively on one of the simpler sequences, he may not be given any further tests in this area. In most occupational areas, the last test in a given occupational area involves the use of every tool from the preceding tasks. When he is confronted with a task involving a basic hand tool, the client is shown how to manipulate the tool in the execution of a purposeful task through written and oral instructions. Demonstration techniques are frequently used. The client is given ample opportunity to practice. Once he is acquainted with the use of this tool, he is then given a task to perform which is rated accordingly. This approach guides him through various activities and helps him avoid mistakes.

The TOWER vocational evaluation program facilitates the observation of other factors which are significant in the measurement of work potential. His work habits and work tolerance are determined through exposure to meaningful tasks. Pertinent aspects of his personality are seen in this permissive atmosphere while the client is participating in the evaluation process. When the client undertakes many jobs over an extended period, flexibility and pliability are demonstrated. If a client has physical difficulties, appropriate prosthetic devices can be devised to improve his functioning. The evaluator works closely with all professional disciplines in determining a client's potentials for work.

At the Institute for the Crippled and Disabled a vocational evaluator who has industrial arts background works with clients and with the vocational counselor in determining specific vocational goals for the client. The vocational evaluator delineates the types of jobs which the client is capable of performing.

While enrolled in the TOWER vocational evaluation unit, a client is seen by other professional disciplines which play active roles in determining his specific goals and job objectives. The determination of a client's vocational potential is a comprehensive team decision. The physician, occupational and physical therapists assess a client's physical limitations, ambulation, work tolerance, and capacity for activities of daily living. The psychiatrist, psychologist and social worker measure a client's personality, family background, intellectual capacity, motivation and acceptance of disability.

Once a client completes the vocational evaluation, his case is discussed at a weekly case conference where all professional team members meet and report on their findings. The entire team works together in deciding upon a comprehensive rehabilitation program for the client. He may be recommended for any of the following: trade training, sheltered workshop, direct placement or prevocational therapeutic program. The team decides on the need for concomitant medical, social, psychological and psychiatric services.

PRE-VOCATIONAL PROGRAM

The pre-vocational program at the Institute for the Crippled and Disabled is primarily concerned with developing and improving a client's work habits, work tolerance and productive speed to limits deemed acceptable by the vocational rehabilitation department. The major aim of the Institute's pre-vocational program is to prepare the client for the demands and pressures of vocational evaluation. The pre-vocational unit is operated by an occupational therapist under the supervision of the director of medical service, a physician. He indicates the physical limitations, while the vocational counselor suggests vocational tasks and establishes pre-vocational goals for the client.

It must be emphasized that it is not the occupational therapist's position to evaluate, assess, appraise or test the client for vocational aptitudes or job skills. This is the responsibility of the trained vocational evaluator. However the pre-vocational program under the direction of the occupational therapist is conducted in a work-oriented environment so as to contribute to the client's conditioning for evaluation and eventual employment. A client cannot relearn work habits, increase work tolerance or produc-

tive speeds in an area of permissive atmosphere which utilizes activities foreign to the everyday working situation. Therefore the client in the Institute's pre-vocational program utilizes tasks related to the future vocational evaluation experiences.

Upon first admission to the Institute for the Crippled and Disabled, the client is interviewed by the caseworker and evaluated by the psychiatrist and/or psychologist, physician, and occupational and physical therapist. The results of these evaluations are discussed at a weekly conference composed of various professional persons who have seen the client, in order to establish feasible rehabilitation goals which meet the client's needs. It is at this time that the referral is made by the physician to the pre-vocational program.

Once the client is admitted to the pre-vocational program, the occupational therapist orients him to the purposes, objectives and essential job tasks of the program. A client spends from two weeks to six months in the program depending on the specific problem. The specific length of time is discussed with the client and the importance of regular attendance, punctuality and proper work habits are emphasized throughout the program. For example: the client must sign in and out during the working day or telephone the therapist when he is unable to attend a session. From time to time during the program the therapist discusses progress with the client. The client is seen regularly by a vocational counselor to reinforce the pre-vocational program and prepare him for eventual entrance into the TOWER vocational evaluation.

The three major objectives of referring a client to the pre-vocational program are to develop and improve work habits, work tolerance and productive speed. Work habits are defined as characteristics on the job not essential to the performance of specific tasks, such as: attendance, punctuality, neatness, grooming, attention span, industriousness, ability to follow oral and written instructions and ability to work under supervision. To improve a client's work habits, he is required to work a minimum of five hours per day in the unit. This is gradually increased to eight hours per day.

The occupational therapist helps the client develop constructive work habits by exposing him to varied meaningful vocational activities and discussing his individual work habits and their significance to the job situation. For example, when it is observed that a client is unable to concentrate on the various tasks that are to be accomplished, the therapist will discuss with him (a) the difficulty the client has encountered during the working day in keeping his attention

on the work that was to be performed; (b) the result of the lack of attention upon the client's production; (c) the result of the lack of attention upon the other workers in the area; (d) the significance of work concentration before progressing into the TOWER vocational evaluation program; and (e) the significance this will eventually have to the actual job situation. These points will be reinforced by the vocational counselor during subsequent counseling sessions with the client.

Work tolerance is the constitutional or acquired capacity to sustain work either standing and/or sitting. Clients are exposed to tasks that require standing and/or sitting for a period of not less than one hour per day, to be increased to four to eight hours per day. The occupational therapist attempts to help the client through constant encouragement and work adaptations, such as: changes in the height of the work area, working position, temporary weight for stability of extremities, splints and special handles or jigs for tools. Once the client's work tolerance reaches a minimum of four hours per day he is discharged from the program.

Production speed is defined as the ratio of the amount of work accomplished to the amount of time taken. The method used to increase production speed is to expose the client to specific tasks, as determined by the vocational counselor, for a full five-hour day and increase production speed through repetition of those specific jobs. If the client reaches a productive speed commensurate with the qualitative and quantitative standards set by the TOWER vocational evaluation unit, he is discharged from this unit and referred to the vocational counselor.

To develop and improve work habits, work tolerance and productive speed, the client is exposed to many realistic tasks. The activities selected for this purpose are similar to, but less numerous and complex than those utilized for evaluation purposes in the TOWER vocational evaluation program. Examples are: in the clerical and sales areas there are such tasks as typing, collating, filing, mail sorting, posting of invoices, cash register operation, adding machine operation, and packing and shipping of packages; in the skilled and semi-skilled areas there are such tasks as upholstery refinishing, cable harnessing, power press operation, sewing machine operations, pipe cutting and fitting, industrial leather manufacturing and jewelry assembly; and in routine assembly there are such tasks as packing and banding artmaster and tissue paper, and washer assembly. Where possible, related tasks are chosen and presented to the client according to his previous work history and work interest. The occupational therapist works closely with the vocational counselor

and physician in determining suitable work activities for the client. The vocational counselor meets with the occupational therapist on a weekly basis to review the client's progress, suggest individual jobs to be explored, and determine a client's readiness for the TOWER vocational evaluation program.

CASE HISTORY

Hannah was a forty-year-old woman who suffered a cerebral vascular accident with a right hemiplegia and aphasia in 1946. She had limited functioning in the right extremity which was her dominant hand. Her ambulation was good and she was able to travel independently. Hannah was referred by New York State Division of Vocational Rehabilitation for a TOWER vocational evaluation program to determine her skills, aptitudes and training potential.

Hannah was a high school graduate with average intelligence. She had a limited unskilled work history. When seen at the Institute, Hannah expressed an interest in general clerical work. In our occupational therapy evaluation to determine her hand strength and physical potential for clerical activities, the client was exposed to simulated tasks where handling, fingering, gross and fine dexterity skills were important. Though she had occupational therapy in another agency to strengthen her muscles, and training in left-hand writing prior to referral to the Institute, Hannah functioned slowly in the use of her left hand. Her writing, which was labored and large, would limit her performance and program in clerical endeavors. Her over-all slowness would hamper her manipulative ability and prevent her from achieving success in any vocational area. It was felt by the vocational counselor, physician and occupational therapist that Hannah was not ready for a vocational evaluation or training program but could benefit from a pre-vocational program.

A three-week pre-vocational program in occupational therapy was recommended to improve her speed, dexterity, coordination, writing ability with the left hand and increase her work tolerance and ability to function under pressure. In occupational therapy she received assistance in writing, filing, typing, answering the phone and general clerical activities. When she completed this program, she was referred to the Institute's vocational rehabilitation service for a comprehensive TOWER vocational evaluation to determine the feasibility of clerical work as her vocational goal. After completing a three-week TOWER vocational evaluation, Hannah was deemed ready for secretarial training and entered a training program at the Institute. Once she completed her ten-months training program,

she was referred to a secretarial job where she has been working for the past year.

SUMMARY

There are distinct differences between vocational evaluation and pre-vocational programs. A vocational evaluation program is primarily concerned with the comprehensive assessment of a client's assets and limitations in relation to his skills, aptitudes, and work potentials for trade training, sheltered workshop activities and job placement. A pre-vocational program prepares, improves and develops a client's work habits, work tolerance and productive speed for eventual entrance into a vocational program. A pre-vocational program is not established to assess a client's skills or aptitudes. At the Institute this program has proven useful for clients who either have never worked or have no recent work background. This has been helpful to those who have a limited understanding of a work environment.

At the Institute for the Crippled and Disabled vocational evaluation is performed through an organized series of miniature tasks known as the TOWER system. The TOWER evaluation is part of the vocational rehabilitation service and is supervised by a vocational evaluator who reports to the director of the service. In the TOWER vocational evaluation a client is exposed to 13 occupational areas within his intelligence, physical limitations and interests. The client undergoes the evaluation on a daily full-time basis for three weeks. Once a client completes the evaluation, he is discussed at a case conference where all professional disciplines are represented. A client may be recommended for either trade training or outside job placement concomitantly with a medical and/or psycho-social program.

The pre-vocational program at the Institute for the Crippled and Disabled is medically oriented and conducted in the occupational therapy unit of the medical service by the occupational therapists under the supervision of the service director who is a physician. To develop a client's work habits, work tolerance and productive speed, a pre-vocational program must be realistic and utilize meaningful vocational tasks commensurate with industrial standards. The occupational therapist works closely with the physician and vocational counselor in determining specific tasks, purposes and needs of the client assigned to this program. The pre-vocational program at the Institute utilizes occupational areas similar to the TOWER vocational evaluation. Clients are given activities such as jewelry cutting, leather gluing, typing, filing, record-keeping, assembling washers and tissues. In this program the occupational therapist emphasizes punctual-

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MUSIC THERAPY IN AN ADULT CEREBRAL PALSY CENTER

PATRICIA HOLSER, O.T.R.*
ROBERT KRANTZ†

INTRODUCTION

An occupational therapist and professional musician have combined their efforts to provide therapy, using music as the modality, to cerebral palsied adults at the United Cerebral Palsy Center of Los Angeles County. After careful consideration, the authors felt the program could only be successful when both the musician and occupational therapist worked closely together combining their backgrounds. The program is divided into two parts: the first is group singing and rhythmic work; the second is individual instruction on musical instruments, mainly ones that can be adapted to individual needs.

GROUP SINGING AND RHYTHM WORK

Singing is taught to improve breathing patterns, vital capacity and speech. Gardner¹ has conducted a study on the effect of music on the relaxation of speech musculature of the cerebral palsied. He reported that requests for relaxation, accompanied by music of certain kinds, were more effective in relaxing the speech musculature of the subjects than relaxation without the accompaniment of music.

The singing group at the United Cerebral Palsy Association Center varies from six to eight in number, and sessions are one hour once a week. Physical handicaps range from mild to severe. Chest measurements have been taken with a tape measure on all individuals before entering the singing program, and at succeeding intervals, in order to chart progress. The measurements are taken at various intervals to show any increase in chest circumference in each individual.

To increase their total note range it was necessary at the start of the singing program to determine each person's natural pitch. This was accomplished by having each one singing his most comfortable tone and then locating that tone on the piano. This then became his starting pitch. As a result of this test, it was found that most pitches ranged between A below C and D above middle C. Since starting notes were in different keys, the first five ascending notes of that scale were taught.

The work next centered on increasing each person's range above and below his pitch through individual drill work. He was graded "good," "fair," or "not at all" for each additional note he could sing in order to chart progress. In most cases the pitch on all individuals increased a

third to a fifth from their individual key. This increase occurred over a period of two months to two years. The amount of time a given pitch could be sustained was from one to ten seconds.

During the singing, it was noted that when a tone was struck on the piano, some individuals would start the pitch approximately a half tone higher, then drop down to the true sound they heard. In other cases this was reversed in that they started a half tone lower and went up to the given sound. One person wavered by singing, all in one breath, a half tone higher, a half tone lower, and then leveling to the proper pitch. No one in this group had a hearing loss, and even though they started a half tone lower or higher they eventually attained the given pitch.

Once the basic work of note placement was established, singing was broadened into simple tunes requiring pronunciation of words. Motivation was kept high as most of the songs used were ones requested by the group. Such selections as "My Country 'Tis of Thee," "Old Black Joe" and "God Bless America" were most frequently requested. Generally a change of key was necessary to modify the song to the group's pitch. The transposition of the tune was made so that G above middle C was the highest note used because this was all the group could attain. For practical purposes, folk songs and singing games were also excellent because of their note range and such selections as "Looby Lou," "Lightly Row" and "Shoo Fly" were used.

Hand clapping to a 4-4 beat was used to teach rhythm. This is another method of developing rhythm as an introduction to regular rhythm instruments. According to Briedenthal² this is a technique which creates a state of readiness basic to any student of music, and should definitely be included when working with the handicapped.

Rhythm readiness was found to be transferable to other musical activities. It has been included as a warm-up exercise for deep breathing, preparatory to singing. For example: just prior to a singing session, each patient uses either a 36-inch long wooden wand, or elastic straps which are attached to the wrist if there is no

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hand grasp. In gripping the wand (or elastic strap) the hands are placed about two feet apart, at arms length down in front of the body. The music begins in 4-4 time. At the end of two measures or eight full counts the patient has inhaled deeply while raising the wand slowly over his head and bringing it back and down to rest on his shoulders. After exhaling, the process is repeated in reverse with the lowering of the wand from shoulders to the front of the body, exhaling to 4-4 time. The speed of the exercise must be adjusted to the group. At the beginning of the rhythm readiness work, most of the patients became confused and although they might



Figure 1. Table and holder for steel guitar. Rubber matting on the table prevents guitar from sliding. The wooden holder holds neck of guitar firmly and rubber matting pasted on the bottom of the holder prevents sliding.

have remembered to raise the wand over their heads, they would forget to take a deep breath. After developing rhythm readiness many of our severely and moderately handicapped patients were pleased with their physical accomplishment in this activity, particularly when they realized that as adults they had learned a coordinated motor act. According to Schneider,³ "singing, rhythmic activities, singing games, and instrumental performance of various kinds have been reported as being valuable in inducing relaxation, attracting attention and increasing its span, in developing and as providing means of emotional release for many cerebral palsied children."

INSTRUCTION ON MUSICAL INSTRUMENTS

Generally musical instruments are going to be difficult for the physically handicapped to use so that one should be carefully selected that will be easy for the patient to use, require a minimum of adaptations and enable the patient to play and enjoy it. Not all persons will need adaptations. It could be that positioning of the instrument is all that is needed. For instance, most of our patients can not hold a steel guitar across the lap and still play it easily. Putting the guitar on a convenient-height table with a rubber matting to prevent sliding, and resting the neck in a holder enables the player to concentrate only on playing the instrument (Figure 1.) Another problem frequently encountered with the cerebral palsied is that the hand that holds the steel bar for chording is not strong enough



Figure 2. Steel bars for the guitar and two holders. Center figure shows grasping surface enlarged by sliding the bar into a groove cut into a piece of wood. Holder on the right has one-half-inch wooden doweled handle for player whose best position of arm is midway between supination and pronation.

to maintain a stable grasp for playing. Figure 2 illustrates how the grasping surface can be enlarged by sliding the bar into a groove cut into a small piece of wood. If the player's best position of the arm is 90 degrees supination rather than pronation, a one-half inch wooden dowel can be mounted into the wood which the player can grasp. Both the holder for the neck of the guitar, and the wooden handle for the steel bar can be built quickly and inexpensively by the occupational therapist.

In adapting a musical instrument, it is important that the musician and occupational therapist develop these aids together so that the patient's needs are approached both from a musical and a physical standpoint. The patient should be encouraged to comment on the adaptation made for him as this will help the therapist determine whether it has met his needs.

Most instruments can be used although the choice of instrument may vary according to the individual. If the physical handicap permits, it is best to teach on the instrument the individual has always had a desire to play.

The instrument we have used the most is the steel guitar. It can be easily transported for practice at home, is reasonable in price and, no matter how great the handicap, can usually be adapted to meet the needs of the individual. Other instruments that have proved satisfactory are the accordion, electric (chord) organ and piano. Because of the breathing and oral problems of the cerebral palsied, wind instruments are not used to any great extent since patients can hardly ever produce any sound.

Obtaining musical results is the primary motivation for learning to play an instrument, but no less important is the physical improvement that can be obtained through this medium. In working with the cerebral palsied, the strictly didactic approach must be avoided, in that emotional disturbances and tensions can frequently result from lack of rapport between the teacher and patient. The teacher needs to be sympathetic to the handicap, although this does not mean that

basic fundamentals of teaching should be overlooked, nor should disciplining be neglected. It has been observed that many well-meaning musicians treat the handicapped person as if he has a disease that they can "catch" rather than as an individual. The handicapped person can sense this immediately and will react to it in a variety of undesirable ways. Most music teachers who have had experience with the handicapped emphatically support these views. An article in the *International Musician*⁴ states that "as a life calling of a very special sort (teaching of the handicapped) requires a very special sort of person, one who can deal sympathetically with the ill, the crippled, the handicapped, with individuals lost temporarily or permanently to normalcy, with unfortunates cut off from families, job, communities, with human beings living on the frayed edges of the human pattern."

The musician must be alert to note physical changes that occur over a period of time while working with the individual and report these changes to the occupational therapist both orally and in written progress notes.

Practice is one of the most important elements in achieving results both physically and musically. Daily practice is expected of the cerebral palsied as well as with any music student. Systematic practice periods should be on an individual basis varying from one to several times a day depending on how rapidly the patient becomes fatigued.

If exercises are used it must be remembered that they should be no more than just enough to overcome technical difficulties in learning a tune, because learning the song itself is enough of an accomplishment. Some students will show an unusual aptitude in spite of their handicaps, and for those the teaching should be adjusted to meet the needs of the individual. In all cases the sense of accomplishment and opportunity to display newly discovered talents causes release from tension through stimulation and relaxation.

One student who is principally a head and neck athetoid with severely involved upper extremities and mild lowers is being trained to use a distaff machine which takes the place of arms and is operated by the feet. It is used for feeding, typing, writing and other basic activities. It was learned by the occupational therapist that the patient had a great interest in music and had written lyrics in collaboration with composers, some of which had been published. However, he had never learned to play a musical instrument and no one had ever attempted to teach him music in any form. Composing the lyrics was accomplished by having his mother play a tape recorder or record and, after listening, he would compose the lyrics to fit the melody.

His main desire was to compose his own music and he was started on the piano, using the distaff machine in place of his arms. He was later transferred to the electric (chord) organ as this is an easier instrument for him to play. He is being taught the rudiments of music and has learned rhythm, note reading and elementary keyboard techniques. Considering the severity of involvement, this has proved to be a wonderful outlet and illustrates the wide variety and extent to which music can be used as therapy.

There is no end to the possibilities with disabilities other than cerebral palsy. The use of music as therapy can no longer be ignored, but the authors feel that in general the use of music therapy has not been developed much beyond the mental hospital. This is why they felt compelled to work together to combine knowledge that at present is taught academically to very few persons. Until such time that the schools set a regular course of study for this knowledge, it is imperative that the occupational therapist and musician combine their forces to use music as therapy.

Furthermore, the use of music should not be confined to teaching choral singing and band work such as is done in mental hospitals at present. The field of music therapy could be expanded to include many disability areas. Music therapists could advise physical and occupational therapists how to integrate music into their programs. For example, teaching sawing to young children is an extremely fine physical activity, but developing rhythm in sawing with youngsters is an essential for doing a good job. What better way could there be to teach it than to use a rhythmic recording or for the therapist to sing a song to the patient while sawing.

We know that the material we have presented will be obsolete in a few years if more and more persons explore and develop this unlimited field of music therapy. It will take careful planning however, so that the aims and objectives are clearly defined for the various types of patients with whom music therapy can be used.

SUMMARY

An occupational therapist and professional musician have combined their knowledge in order to provide music as therapy for the adult cerebral palsied.

Part of the program consists of rhythm readiness work followed by group singing to improve the patients physically. The other portion of the program is individual instruction on musical instruments, mainly the steel guitar, piano and electric (chord) organ.

By combining the knowledge of the occupational therapist and professional musician, physical

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CLERICAL WORK IN PSYCHIATRIC OCCUPATIONAL THERAPY

CLIVE KRYGAR, JR., O.T.R.*

A survey of female referrals to the occupational therapy department covering the last 18 months indicated that approximately 35% had, prior to hospitalization, done clerical work. Conferences with individual doctors and social workers indicated that many of these patients hoped to return to this type of work. In addition, there existed a sizeable number of younger patients with no previous work experience who hoped to go into clerical work after discharge. The patients ranged in age from 19 to 47 years, and in experience from a few high school courses in typing to several years of clerical work experience.

Because of this interest, techniques used in pre-vocational evaluation with physical disability patients were applied in pre-vocational exploration of clerical work with a group of 18 female patients in a mental hospital setting.

Six new standard typewriters were purchased at a "school rate," and free teaching aids were obtained through the Educational Research Committee in Washington, D. C. Instruction books were borrowed from local libraries and the patients cut stencils of the lessons and speed drills which were used by patients learning to type.

In order to offer a well-rounded clerical experience, we collated, folded and stuffed thousands of packets for the county mental health campaign fund drive; cut stencils, mimeographed, collated and stapled the monthly employees' newspaper; established a typing pool for non-confidential material from other departments; lightened the burden of the secretarial staff as regards routine checking, simple filing and addressing envelopes for the annual OT fair.

The program is now six months old. Some observations and summarizations to date are:

1. Some patients who rebelled at traditional craft media of occupational therapy, either because of fear of failure or lack of creative ability, volunteered to try typing. Apparently this activity appeals to these people because it represents closer touch with reality than the traditional creative activities. Further, the results are clear cut and tangible, and the patient knows without being told when his work is improving.

2. Clerical work appears to have a more sophisticated appeal for some patients.

3. On such projects as collating, stuffing and sealing envelopes, there is greater opportunity for group interaction than in the other activities

we have to offer in the occupational therapy department.

4. The patient who has had previous typing experience is often able to evaluate his own medical progress in terms of the improvement he sees from day to day in his typing speed and skill. The finished copies of work can be used either by the therapist or the patient to demonstrate this improvement to the doctor.

5. Progress reports on these patients in terms of skills, speed, neatness, cooperation and work tolerance have already served as useful tools to the case worker who frequently must make vocational recommendations upon the patients' discharge.

Plans for the future call for the inauguration of a follow-up system on the patients who have gone through this program. This will include such items as: amount of additional training required after discharge, number of jobs applied for before being hired, agency assistance in obtaining additional training and job leads and, finally, adjustment on the job and duties performed.

It is hoped that such a follow-up, over a period of the next 18 months, will give us enough data to further evaluate the program for patients in this setting.

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NEW BUYERS' GUIDE

The classified listing of occupational therapy suppliers on pages 94-99 is completely revised. It has been compiled from the recently completed questionnaire on the purchasing power of occupational therapy departments. The list does not include all suppliers listed on the questionnaire by the individual departments, but does include the ones most frequently listed or those whose products are unique to occupational therapy.

*Eleanor Clarke Slagle Lecture**

THE ESSENTIALS OF WORK EVALUATION

LILIAN S. WEGG, O.T.R.†

PREFACE

The principles of occupational therapy established by our pioneer occupational therapists, and most particularly Eleanor Clarke Slagle, have given us the foundation upon which to build advanced techniques and approaches.

Although pre-vocational occupational therapy is a recognized part of our work, it seems apparent that there is still a need for a discussion of the basic principles and practices essential to such a program.

The essentials which will be considered today are the expression not only of myself, but also of the members of the work evaluation team of the May T. Morrison Center for Rehabilitation. The recognition you have given to me must, in truth, go to this team as a whole.

INTRODUCTION

In the consideration of vocationally oriented occupational therapy, it is essential to provide an effective means of determining needs, measuring abilities and predicting capacities of an individual. One of the most effective means is through the use of tests.‡ Experience in helping to develop a work evaluation service has taught me that tests are basic to such a service and that the work tests developed in occupational therapy are the very essence of such a program.

It is, therefore, this subject of tests which will be our primary consideration today; what a test is, what a test should do and the role of the occupational therapist as a tester.

In the field of physical disabilities, certain tests have become standard to good treatment. Some of these are range of motion tests, muscle examinations and functional activity tests. Initially, we use these various evaluations as a way of establishing tentative goals. Throughout the course of treatment, we use them as a means of measuring progress or abilities.

The work evaluation team, in an examination of the vocational needs of the patient, realized that these tests did not reveal, to any practical extent, the person's ability and capacity for work. The need for a more thorough appraisal and accurate prediction of vocational capacities was evident. It was appropriate that an approach be developed which would attempt to deal with this need and which would be suitable for all diagnostic areas.

In work evaluation, tests using the reality situation or work sample method have proven to be such an approach.

STATEMENT

If we recognize that tests play a part in determining needs and act as a guide to the attainment of goals, then we can assume that the purposes of a work evaluation program are the testing and evaluation of work abilities, including skills; the testing and predicting of work capacities, including the level of employment expected; and the testing and exploration of interest and work aptitudes.

More specifically, the objectives of the tests, are:

(1) To evaluate ability as related directly to recommended and specific job tasks. The evaluation of the person's learning ability, retention of skill through tests and recall of skills on re-tests should be considered.

(2) To determine capacity to perform job tasks. Such factors as production and proficiency in terms of the specific samples should be carefully evaluated.

(3) To evaluate such physical and psychological factors as work tolerance and work habits.

(a) To evaluate work tolerance, such factors as ability to work in the required physical position for the required length of time; tolerance to job demands, such as noise, dust, people and tools; tolerance to routine, repetitive work or skilled work should be considered.

(b) To evaluate work habits, such factors as responsibility, cooperation, attention span, response to authority and criticism, method and manner of performance, mood and relationship to others, should be examined.

(4) To devise and evaluate work simplification methods as indicated.

(5) To provide the patient with an opportunity to participate in a realistic work program.

*Given at the annual conference, American Occupational Therapy Association, Chicago, Illinois, October 21, 1959.

†Director of occupational therapy, May T. Morrison Center for Rehabilitation, San Francisco, California.

‡Two tests and the booklet for administration of the tests are available from the American Occupational Therapy Association, 250 West 57 Street, New York 19, N. Y.

In order to meet these testing objectives based on vocational needs, it is necessary to have media closely related to job demands. Work sampling and evaluation is job-oriented, not disability-oriented. We are evaluating the ability of a person to work. Because the individual is vocationally in need, our media and our roles must have a vocational orientation. The fact that a medical diagnosis rendered the person in need of vocational rehabilitation means that we must be aware of the diagnosis in the work program. We are dealing, then, with a medical and a vocational program, with consideration of the former but emphasis on the latter. This change of emphasis influences the role of the occupational therapist.

To understand this clearly, we first need to know what a test is and what a test should do. A test is defined as "a means of measuring the skill, knowledge, intelligence, capacities or aptitudes of an individual." In preceding remarks, it was mentioned that a work testing program should provide a reality situation, an accurate measurement of abilities, and an accurate prediction of capacities.

Let us keep the definition of a test and these essentials of testing in mind and determine how work tests should be organized to accomplish the objectives.

Many of you will be familiar with the *Dictionary of Occupational Titles*. This publication has been prepared by the Division of Occupational Analysis, of the United States Employment Service. It has provided a suitable framework upon which to organize the structure of work tests. This structure allows for division and selection of appropriate work samples according to the major job families: such as, technical work, clerical and sales work, service work, mechanical work and manual work.

The test should measure as nearly as possible the movements required on the job. In addition, such intensity factors as the distance walked, directions reached, and weights lifted and carried should be evaluated. It should be of sufficient length to evaluate both ability and endurance. This means that the test should involve normal units of work rather than single units which would evaluate only the momentary capacity. If, under normal working conditions, the individual would be required to work with 500 or 1,000 parts for a given period of time, then the work sample should be set up accordingly.

The tests should be provided in a special atmosphere which is tailored to fit the demands of the various job families and which is in keeping with the demands of a testing situation. Unless group testing has been specifically recommended, the tests should be administered in a

room separate from the occupational therapy department or workshop area.

The test should provide both an objective and a subjective analysis and standardization in all tests is a recognized goal. Standardization does not relieve the occupational therapist of interest, ingenuity or initiative. On the contrary, as each client varies so greatly from the next, the tester's entire thought and time will be directed to the evaluation of that particular person's performance in terms of the test objectives established for him. Without standardization of the testing procedures, there would be no reference point or base line for the tester, there would be no opportunity to accumulate reliable data and, indeed, the entire process would lose the scientific concept.

The test should be easily administered. Each test should have a test kit indexed according to the occupational classification and titled with the test name itself. For example: handwriting is classified under the major heading of "Clerical Work, General Recording," with the numerical classification of 1-X2-0. Assembly, packaging and sorting of miscellaneous items is classified under the major heading of "Manual Bench Work" with the numerical classification of 6-X4-3.

Each test kit should contain a test outline composed of a description of the test in industrial terminology, the purpose of the test, the physical demands of the task, the psychological factors to be considered, a list of the equipment and supplies required, a detailed explanation of how to prepare the work place, an explanation of the exact information to be given the client, and full instructions as to what should be included in the timings and what items should be recorded as errors. The equipment, tools and supplies should be assembled in a portable kit if possible.

The test results should be readily evaluated. This requires a standard and quick method of scoring and checking for accuracy. Several systems for the latter can be used, such as: special marks, numerical codes, or answer sheets. When evaluating craftsmanship, models for comparison should be used. When evaluating work samples classified as repair work, the tester should be sure that the finished project works. Discussion of scoring will come later in the paper.

The test should be acceptable to the individual taking it. This is not a problem if there is rigid adherence to the reality situation. There is some danger when devising a work sample to make something do for the sake of economy in time and money. This is false economy. It results in the test appearing silly to the client and thus losing its predictive value.

The test should be available to facilities and occupational therapists at a moderate initial out-

lay. Replacement or maintenance should not be costly.

The use of work evaluation tests means that the occupational therapist must be a work tester and, as such, is assuming a function of more vocational emphasis than medical. This change in emphasis, however, does not change our functions radically. The following outline of the essential functions of the tester will indicate that these are basically the same as the defined and accepted functions of the occupational therapist. The items with which we work, the factors which we consider, the terminology which we use, the goals which we set, may be adapted to fit the need. The basic or fundamental things that we do, however, have not changed.

ESSENTIAL FUNCTIONS OF THE TESTER

Referral. Included in the referral for work evaluation should be as many known factors as possible, such as; the work history, the medical, social and educational histories and the results of psychological evaluations. There should be a recent physical examination or medical approval of the program. In our facility, it has been the occupational therapist and the rehabilitation counselor who have procured and assembled this data.

Acceptance. Once this information is obtained, the referral should be followed by a staff review for determination of acceptance and choice of work samples. At the May T. Morrison Center, we have termed this review the work sample prescription conference. The occupational therapist, the psychiatrist and the rehabilitation counselor select the appropriate tests. If the referral comes from the Vocational Rehabilitation Services, the counselor active in the case attends the conference. The selection of tests is based on the client's physical capacities, personality appraisal, social history, vocational interests and aptitudes and the tentative vocational objective.

The occupational therapist should assist in recommending the actual tests to be used. He should suggest whether or not re-tests or equivalent tests seem indicated and at what stage these should occur in the program. Re-tests refer to the same tests done more than once and can be administered within the first tryout period or scheduled for a later date. Re-tests given within the initial period will evaluate the individual's ability to recall skills. If given at a later date, re-tests will not only evaluate re-call but also will serve as a measurement of progress in abilities. Equivalent tests refer to tests which are similar to others in that they can evaluate similar factors but will differ in such things as the test outline, the instructions or the tools. These are generally done within the initial tryout period. Such tests are useful when evaluating the client's

tolerance to working with a variety of materials, such as wood as opposed to metal or vice versa.

Preparation. In the planning stage, preparation refers to the scheduling of the client. Various social, psychological or physical factors enter into the choice of time and days. The time of the day, the day of the week, the time of the month, the attitude of the family can, and will, influence the client's participation in the testing program.

PRE-TESTING

Preparation. The equipment should be kept in working order, the supplies should be adequate for each testing period and the work room should be properly arranged for the client and the job.

Presentation. In the explanation of the testing program, it is important to orient the client to the purpose of the testing and of the tests. Terminology should be used which is in keeping with the job and suited to the client's needs, such as in the case of the deaf, blind or the brain injured. Initial contact will structure the total testing atmosphere.

Instructions will be oral, written or schematic depending on the nature of the job. Instructions should be kept to the test outline as they have been carefully worked out according to normal job conditions.

Demonstrations of the movements required and the various methods needed to complete the work sample will be necessary. This is particularly true in jobs requiring a high rate of production. Our test outlines are written for the non-handicapped person and adapted as necessary for each client. This adaptation would be required in the case of a functionally one-handed individual performing a task normally requiring the use of two hands.

Tryout phase. The client should be allowed to try out part of the test to learn the procedures and to allow the tester to observe his capacities. The learning time should be recorded for comparison with the average learning time. The need for accuracy should be stressed during this phase and all errors should be corrected and discussed with the client as they occur.

TEST

Administration. An accurate administration is essential otherwise the scores cannot be validated. Strict adherence to the work samples as prescribed, however, should be up to the discretion of the tester—a judgment which is used constantly in the treatment of patients.

Instructions and comments should be confined to the testing situation. The performance must be by the client's own efforts in this phase. Un-

necessary words or actions will disturb the worker.

Observation. Both direct and indirect methods of observation should be used. An example of the direct method would be the close observation essential to note the number and types of errors which the client makes. Very often an individual will make consistent errors. These could be due to an oversight during the instruction period, or something that the client has failed to comprehend or something that he is prone to do. Without close attention to this detail, the wrong conclusion could be made. An example of the indirect method would be the subtle observation of manifestations of behavior.

Recording and evaluation. When making observations, it is easy to overlook certain factors, forget certain details or emphasize unimportant events. Therefore, for recording and evaluating, it is recommended that the tester use a work test sheet, check list (work sample prescription) and stop watch. A slide rule is optional.

The work test sheet is an ideal place for recording the client's name, diagnosis, date, numerical classification and title of test. It also allows space for a description of the client's performance and his production, proficiency and final ratings. If this sheet is carefully written, it can serve as a part of the final report. Only the most significant material should be recorded. This places additional importance on the work sample prescription as the testing objectives will then serve as a guide.

To evaluate performance, it is necessary that some method of scoring be established. The Morrison Center has a norm for each work sample test. This norm was established by methods used by our industrial engineer, Mr. Paton B. Crouse. The norm is set up so that 100% represents the normal good performance of non-handicapped workers familiar with the job and working at a tempo that would be required in competitive employment.

These norms, written in decimal figures, are recorded in each test kit. If the test involves several parts, each part will have a norm. A decimal stop watch is used to record the client's time. At the conclusion of the test, the norm is divided by the time achieved by the work. This establishes a percentage and is known as the production rating. To obtain a proficiency rating, a certain percentage is then deducted for errors. This percentage is based on the degree of skill needed and the quality required by the job. All final ratings are based not only on the production and proficiency ratings, but also on the subjective analysis of the client's coordination, attention and interest for that particular job. These ratings are expressed in terms of "good,"

"fair," or "poor" depending on where they fall in the numerical scale of 100-0. For example 0-30 represents poor or questionable performance and means that the client is capable of selective work in the sheltered shop area or non-competitive employment. A score of 30-50 represents a fair performance and means that the client is capable of sheltered shop work at that time with the potentiality for competitive employment with training or adjustment. A 50-75 score represents good and means that the client is an adequate worker for competitive employment. A 75-100 score represents superior and means that the client is a good to exceptional worker and capable of competitive employment.

The final evaluation must also be based on the atmosphere and deviations which have been allowed by the tester. These deviations may or may not be acceptable from the vocational viewpoint. It is imperative that this be determined before the tester ventures too far from the standard procedure. This again is one reason why a discreet choice or prescription of samples is so essential. If the elements of a test have to be varied to such a degree that the test loses its identity, then an appropriate work sample was not selected.

REPORTING

Quite detailed and structured reports should be prepared. Adoption of standard terminology by the team is essential. To avoid unnecessary repetition when preparing the report, our evaluation service has adopted a standard organization of the report and standard phrases for certain parts. For example, the opening paragraph always states:

The following work samples were selected on the basis of the client's education and employment history, psychological test results and physical (or psychiatric) information in order to evaluate his physical ability and capacity, his emotional tolerance and capacity, his interest and aptitude to engage in the following work.

The prescribed or selected work samples are then listed, after which is a description and evaluation of the client's performance on each test. A summary of the overall performance relating directly to the testing objectives with recommendations for future course of action or possible areas of placement concludes the report. Whatever the organization of the report, however, the tester must strive to be objective in his remarks. The tester must not be influenced by previous evaluations. His opinions must be based solely on the observations during the testing period.

The preceding essentials form the scientific basis of a work evaluation program. The success of such a program depends on the most important essential of all—that is, the tester.

It is obvious that there are certain traits that a tester should possess. First, the tester should be one who can perform concise analyses, both of a qualitative and quantitative nature. As he will be confronted with varying abilities, diagnoses and degrees of intelligence, he must be one who can react consistently and objectively. He must be sensitive to the needs of the client during the testing—needs which could result in a shift in the task or the atmosphere. The tester should be one who can adopt and maintain a scientific concept. He should be one who is willing to work in harmony with a team. He must be one who is interested in learning new concepts, in developing new programs and in the broadening of his education.

The opinion of the work evaluation team at the Morrison Center is that the occupational therapist is the natural choice for the work tester. An occupational therapist's training and work experience is geared to dealing directly with human beings—not just for a few brief moments, or in an hour's interview, but hour after hour throughout a day. An occupational therapist's thoughts and techniques provide him with a unique approach. This approach is ideal for, and essential to, a testing situation.

Before concluding, there are certain other practical considerations which should be noted at this time. First of all, one should not assume that a vast number of tests are required for a work evaluation service. There are four major job classifications which are most commonly requested. These are: clerical and sales work, service work, skilled mechanical work, semi-skilled to unskilled manual work. Of these four classifications, the first and the last are the most used and the most practical from the standpoint of placement areas for handicapped individuals.

Although our tests number 83, only 25 of these are most commonly used. These 25 are:

Clerical and sales work

1. Computing work using the calculator machine
2. Handwriting
3. Simple book-keeping
4. Typing
5. Checking of equipment, invoices
6. Routine recording work, using adding machines
7. Classifying work
8. Filing
9. Clerical machine operation
10. Collating
11. Telephone and switchboard work
12. Cashiering and vending machine

Service work

1. Kitchen helper
2. Domestic worker

Skilled mechanical work

1. Electrical equipment repairing
2. Radio repairing

Semi-skilled to unskilled manual work

1. Inspection
2. Electrical unit assembling
3. Wood unit assembling and woodworking machine operation
4. Miscellaneous bench work
5. Metal bench work
6. Miscellaneous metal working
7. Miscellaneous paper work: assembling, cutting, sorting
8. Light elemental work: simple routine, repetitive jobs
9. Elemental service work: janitorial or dishwashing jobs
10. Miscellaneous physical work. This is work requiring simple, routine tasks such as might be found on construction projects or in maintenance areas and which would range from light to medium to heavy in degree.

A second major consideration is the number of days suitable for testing. We have found that a period of three days is quite adequate. This is a concentrated period, lasting all day, with one occupational therapist handling one client at a time. Such an arrangement is ideal, but this period must be solely confined to testing and not include training or adjustment. It is my feeling that there is a time and a place for testing, and a time and a place for adjustment or training. An attempt, on the part of one occupational therapist, to do both of these simultaneously loses the scientific approach. This is not to say that adjustment and training cannot be scientific, but in the combination of the two, the true purposes become obscured. The purpose of the testing is to diagnose and evaluate the client's ability and capacity for work but not to condition him for employment. Testing is required to determine the area of training, the level of training and, indeed, if training should be considered. The purpose of a work adjustment program, on the other hand, is to adjust and condition the client to the demands of work by providing opportunities for him to develop work habits or improve such work assets as were noted in the testing situation. The opportunity to participate in a testing program, with close relation to an adjustment program, has made me realize that similar but not identical evaluations can be gained. It would seem apparent, therefore, that both a work testing and a work adjustment program is needed to provide a thorough vocational appraisal. These programs must be coordinated in a team approach. As the work training or adjustment program should occur in a variety of places depending on the results of the work tests, a coordinated team approach implies the integration of an in-center and an out-center team.

(Continued on page 79)

LEARNING TECHNIQUES*

Applied to Prehension

JULIE WERNER SHAPERMAN, O.T.R.

The young child amputee who can open and close a hook on command is considered an excellent operator of a prosthesis by some. There are many more details of which to be aware, however, and the skillful observer will soon see a need to find a more definitive criterion for evaluation of performance. Since we are dealing with a child who has not yet reached his full neuromuscular maturity and who has had a limited set of experiences, we may interpret what we see in terms of developmental level (age), amount of training, type of prosthesis and so on. How much of what we see is related to age, how much to training (amount and type), and how much to the device itself is never really spelled out. Nor do we know in light of all these facts just how they relate so we may definitely say which one is the cause of what we see.

It is important first to become acquainted with those factors which are integrated to make up the skill act of prosthesis operation. Next, we need to know the manner in which the skill evolves relative to maturational and learning factors. Many studies have been done with normal children in the fields of maturation and motor learning. These can furnish us with important clues to the nature of motor performance with amputee children.

Definition of the factors one must consider in attempting to describe prosthesis use is no easy task. *Maturation* is not an easy term to define satisfactorily. Its definition by different psychologists does not make clear whether it applies to the operation of developmental factors within or to the outcome of their functioning. If the definition includes developmental factors, and these are a product of interaction within the environment, one finds it difficult to find a definition which separates it from learning. All agree that *learning* is a process in which a change in performance or behavior results from training, practice or observation. Some possible ways that this change may be brought about are as a result of conditioning (conditioned responses), as a result of self-initiated activity (autogenous responses), as a result of social stimulation, activity or direction (sociogenous responses), or as a result of seeing a relationship or reorganizing perceptions (insightful responses.) Learning which appears to occur after repeated exposure to a stimulus or set of stimuli is currently referred to as latent or incidental learning.

MATURATION

One may ask what are the basic principles in the maturational sequence of the human? Since it may be assumed that maturation occurs as a process in which progressively more complex steps are built onto the existing structure, it seems important to be able to recognize behavior due to maturation both to evaluate the present and predict the future. It has also been found that certain motor skills such as prehension and walking are functions more of maturation than of learning. Even when learning is involved, it is frequently autogenous. For those activities which must await the maturation of the neuromuscular system, training does little in the way of hastening the process. On the other hand there are motor skills which do not develop unless specific training or opportunities for imitation are provided.

Maturation tends to supplant or modify the result of training according to Gessell.¹ It appears that maturation and practice have reciprocal function. Maturation makes learning possible, practice expands and improves activities in which the child is neuromuscularly capable. It is these observations which have allowed us for convenience to adopt the term "readiness" into our list of things to observe before beginning a training period. Studies by McGraw² and Hilgard³ suggest that the efficacy of practice in developing a specific motor skill is dependent on the subject's developmental readiness to profit from such practice.

Investigations of the relative influence of maturation and learning in acquisition of motor skills have demonstrated that at early age levels, and for skills that are simple or which show little short-time improvement from either maturation or practice, the effect of increasing maturation is to make given amounts of practice increasingly effective. The older child, having a sensory, neural and muscular system of greater maturity, should profit more from given amounts of practice than a younger child. Though maturation is still not entirely clear, its implications of developmental factors or impulses modifying behavior within the organism is one of the most helpful contributions so far made to our understanding of young children's learning.

Five basic principles outlined by Gesell⁴ which

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govern the process of growth are summarized here.

(1) The principle of developmental direction was summarized by Ruess⁵ as "concerned with the differentiation of functions along various axes of the body. There are three major trends or sub-principles here: the cephalo-caudal trend, i.e., overall sequential development from head to foot; the proximal-distal trend, i.e., sequential development from axial to appendicular musculature; and in the hand, the ulnar-radial trend, i.e., the sequential development from little finger to index finger and thumb."

(2) The principle of reciprocal interweaving is the organization of reciprocal relationships between two growing counterpoised functions such as flexion and extension and is evidenced by successive shifts in the ascendancy of one function over the other, with the progressive integration and modulation of the resultant behavior patterns.

(3) The principal of functional asymmetry relates to reciprocal interweaving and is expressed in functional dominance of hand and eye.

(4) The principal of individuation in maturation states that the environment does not generate progressions in development. It may support it, but developmental arrangements are laid down in the neural mechanisms before they can respond to the environment.

(5) The principle of self-regulation states that there is a fundamental and progressive change in the regulation of conservation, distribution and discharge of energy. This regulating mechanism is within the organism and produces a fluctuating and spiral type of development with plateaus and growth spurts.

The nature of the development of prehension has been studied by Gesell and Halverson¹ who tell us that four general stages are apparent—visual localization, approach by the hand, grasp of the object and disposal of it. By the age of 52 weeks the normal infant has developed the same patterns of prehension described for the adult.

Prehension has been further studied relative to the following factors by Gesell and Halverson. In general they observed grasp to go from gross-clawing, through a stage of slight nipping and crude palming of objects, to a refined forefinger tip grasp and eventually to a grasp which included precise placement of digits on the cube.

LEARNING

In experiments, previous experience is a factor which should be eliminated as much as possible. Studies of learning skills which are not necessarily linked with experience (i.e., maze learning, cutaneous localization and throwing at a moving target) have shown that the amount of learning in the adult and child age groups is similar (the percentage of gain was similar). If maturation were a factor, one could expect the younger group to make greater absolute gains. For example, it has been found that there is not any clear evidence of differences in learning ability in 3, 4 and 5 year olds. In fact, if the learning of motor skills improves with age, studies to date have failed to show this clearly. Older children show a higher initial level of performance

which may be due to maturity, experience or both. The gross amount of percentage of improvement resulting from given amounts of practice does not appear to change in any consistent way as a function of age.⁶

Hebb⁷ describes learning as a development with age as follows: Movements of the hand follow eye movements. These eye movements fixate the point of contact. Part of learning in infancy establishes ability to move the hand to a point in line with the vision. The cortical processes controlling eye movements may be subliminal for actual movement and yet have facilitatory action on other cortical processes. In the normal primate, first learning is accompanied by eye movements. Hebb also suggests that early learning is slowly acquired through the steadily increasing influence of the infant's environment. Later learning is a strengthening of associations rather than a setting up of new connections between wholly unrelated activities. It is not a capacity for a greater number of associations or finer ones. Training time needed for a skill depends on the time needed to bring all the units (sensori-motor) under control, which in turn depends upon the number of controlling fibers from the sensory areas to the association areas and the number of transmission units in the association areas themselves. The development through this eye-hand-brain phenomenon has important connotations for this investigation. Motor learning in children has not been shown to be influenced by sex or intelligent quotient.⁸

Incentives have received much attention in studies of motor learning in children. Studies have shown that the efficiency with which skills are mastered and in fact whether they are mastered at all is often a function of incentives. Rewards, praise or reproof may lead the child to increased efforts in performance.⁸ Abel, in an experiment with children, changed incentives in the middle of a training period to see if any sharp change in performance would occur. His results showed that the group that received no special reward at any time showed least improvement while the group that received material reward improved most. Those who had new incentives introduced early in the training periods showed a greater rate of learning. However, after the sixteenth trial no increase in learning rate occurred with changes in incentives. Verbal reward gradually lost its effectiveness after ten or so trials. Material reward is most effective in the later phases of learning.

It has been found that many skills which depend upon specific training for their acquisition will develop regardless of the precise method of training adopted. However, some methods may be more effective than others. Young children in-

dulge in a great deal of repetitive activity and show progressive improvement in some of the performances they repeat. However, there is a point of diminishing returns from this sort of practice. Studies have shown that children learning a motor skill did better when given positive, specific, unhurried, encouraging suggestions than when given general, negative, hurried, discouraging ones.

Encouragement as a training device has also been studied. Keister⁹ found that the more difficult the task, the greater the need for encouragement. This encouragement could be material reward or verbal. Hebb¹⁰ suggests that practice accompanied only by encouragement is relatively ineffective compared with demonstration accompanied by verbal instructions and a "putting through" process (kinesthetic). It has been found, however, that the kinesthetic learning must be accompanied by a freedom to make incorrect as well as correct movements to be effective.¹¹

Demonstrations are more effective when both demonstrator and child have the same physical orientation to the performance and when the demonstration is accompanied by statements which direct attention to the processes involved. If a child is to be shown how to put on his boots and tie his laces, it is best to sit beside him rather than bend over him.¹²

Several studies¹³ have suggested that the instructor's approach is an important factor in the learning process aside from the technique used. Schmidt¹⁴ found that the person administering the positive or negative reinforcement in learning was more important than whether the reinforcement was praise or reproof. Grace¹⁵ found that the child's personality was a more significant variable in learning to use a punchboard than the kind of approval used in teaching.

The next problem is to determine the sources of and be able to identify the needs of children relative to the task to be learned, i.e., the needs of the amputee child relative to learning to use a prosthesis. In general, needs are primary (born with) or learned. The strength of a drive is observable in terms of the child's efforts to satisfy it; if we can strengthen a drive to learn a skill we may increase learning. Also it has been shown that a mild amount of frustration tends to strengthen the desire or drive to achieve.

In a study of teaching methods, Landreth¹⁶ found the most effective people with three year olds, told the child what to do rather than what not to do, demonstrated activities, gave encouragement and approval, offered information and asked questions to stimulate thinking, gave physical assistance necessary and used physical guidance

to give the children the kinesthetic experience necessary for their learning of motor skills. This may sound like "horse sense" and quite simple. Yet more detailed studies of reinforcement techniques have shown that quantity, quality and timing of these elements can make great differences in learning. Schedules of reinforcement of a complex nature have been worked out for specific tasks which greatly facilitate learning.

One must be constantly aware of what constitutes reinforcement for a given child. Does the child understand what constitutes a correct response? It is extremely important that only correct responses be positively reinforced or we are teaching something we are unaware of. In early learning the child makes a great many responses from which the instructor must help him differentiate so that his ultimate repertoire of responses will include only those motions needed to perform the task.

Another important aspect of learning theory concerns problem solving. Every learning situation presents a problem of one sort or another. Buttoning a coat, opening a hook, hitting correct keys of a typewriter are problems when confronted initially. Psychologists feel that problem solving is a higher level function than sensorimotor learning, as it involves attaining a goal through discovering an underlying principle or relationship. Thus discovery of the principle is the goal of the learning process in problem solving.

Children between 6 and 27 months of age show marked emotional reactions as well as trial and error responses when given a puzzle problem. As children increase in age there appears to be an increase in the appropriateness with which they attack a problem. Some of this may be due to greater mechanical ability and better motivation at higher age levels. However, the degree of perceptive attitude also increases with age. At higher age levels there is increased frequency of generalizing. Maier's¹⁷ study of reasoning is a combination of past experiences in solving a problem. He found that usually "the ability to combine the essentials of two isolated experiences in such manner as to reach the goal is rather late in maturing. It is rarely developed to a marked extent in children below six years of age."

D. O. Hebb⁷ has stated that adult learning usually takes place in a few trials or only one dependent upon the simplicity of the task. With maturity, learning involves a recombination of familiar perceptions and familiar movement patterns. The stimulus in the problem must set off a well organized phase sequence. This will occur only if the stimulus has meaning. Complex things can be learned more easily if they have meaning than simple things without mean-

ing. Therefore the prompt learning in maturity is not an establishment of new connections but a selective reinforcement of connections already capable of functioning. He then states that motor learning in infancy is sensorimotor while learning at maturity is more perceptual.

In summary, learning in infants is inferior to learning in adults chiefly due to *neuromuscular immaturity*. Also the infant is devoid of *motives* effective in impelling an older child to learn, a background of experience which may be applied to new situations, and an effective repertoire of *words* and *symbols* by which to manipulate the environment.

While conditioning in infants is unstable, we come to another problem with the older child. We may call it *recalcitrance* and it is seen from about the fifth year on. While the child is more capable of modification than he was earlier, he resists it. Therefore after the passive stage of infancy, incentives become increasingly important. Beyond the early years of childhood when the handicaps of neuromuscular immaturity have been overcome, the differences in learning are due almost entirely to differences in motivation and previous experience. Finding effective motivating conditions, then, becomes the problem of teaching.

There is still much that is not known in the area of motor learning with children. Conditions which motivate adults and children are different. Findings with adults in psychological laboratories often do not work out so well with children. What is known, however, is that the differences exist in maturation, experience and motivation and not in any apparent difference in the kind of learning process per se.

PROSTHESIS PERFORMANCE

There have been numerous attempts to study motor performance of amputees by the various people engaged in research in this area. None of these has been related entirely to children so as to provide an evaluative, predictive measure of performance relative to developmental level, amputee and prosthesis type.

When an exploration of the area of child prosthetics was made prior to the start of a major study in that field, it was suggested that a performance test for children should: measure motor performance, not intelligence; be easily administered and scored; measure dependent variables with a minimum of skill; have normative data available; and use inexpensive and easily obtained test equipment. A review of available motor skill tests for children of a standardized nature shows that none of these is really applicable to this problem. It appears, therefore, that a test for the child amputee is not available and

needs to be devised. Mursell¹⁹ gives some interesting clues for designing tests for infants:

The material should be intrinsically interesting as one way of avoiding negativism or indifference.

It should require a minimum of oral directions, again to avoid the effects of shyness and poor rapport.

It should demand only a brief span of attention for each item.

The materials should be as simple as possible.

The test should be based on and selected in terms of equality of previous experience as much as is possible.

Test items should be non-communicable so that a parent can be in the room without suggestions or expressions of disapproval.

Credit should be given for each actual response, not two out of three.

Conditions for administration and scoring instructions should be as objective as possible.

Standardization should be adequate.

Test should be set up for complete presentation of relevant data to make research possible.

A specific attempt to describe the process of teaching prosthesis use to the two to four year old child amputee has been made by Richardson and Lund.²⁰ They propose a time schedule in which certain steps of prosthesis control are learned. Some of the assumptions within their plan are that the child learns first to be interested in the hook before becoming interested in learning to open and close it; opening the hook with the elbow extended is easiest, at 90 degrees next easiest, and at 135 degrees most difficult. The child learns grasp before release and opening before closing; young children cannot comprehend the principle of keeping slight tension on the cable for crushable objects.

Another attempt to describe the process by which a child amputee learns prosthesis use has been advanced by Dennis.²¹ Her observations, while not in contradiction of the sequence described by Richardson and Lund, suggest there is a more detailed progression which is identifiable. This appeared after close observation of a group of young child amputees. Hook opening was observed to begin with an accidental opening through the cable due to a posture of the child; progress to a manual opening with the child using his other hand to pull the hook open at the thumb; then to an assistive opening with the assistance being given either by the therapist moving the child's humerus forward, by the child pushing the socket forward with the other hand, or by leaning on a table. Then it progressed to an assistive opening as described in the last step but with the child maintaining the opening through the cable; and finally to an active humeral flexion to initiate opening through the cable. Dennis then goes on to carefully define hook closing, grasp (opening related to an object), hold and release in similar manners. Not all children pass through all of these stages, but even with older children, parts of these

described phases may be seen. Further consideration has been given to spontaneity of use and naturalness of use also, but in more general terms.

DISCUSSION

It appears from examining carefully the foregoing studies in the fields of maturation and learning that we can apply a great many of their findings to our current investigation of children learning prosthesis use.

Learning principles have received little attention in teaching prosthesis use. Nevertheless, some method is used whether we are aware of it or not. Since the studies cited show conditioning to be an important factor for learning and since this cannot operate without reinforcement, we need to examine critically the incentives used in learning and the way they are applied. Attention to the learning curve with specific children could give us clues to why some children failed to learn at a given time, i.e., where maturation is a factor, a rapid drop at one point is usual. Are we as aware as we might be of the amounts of learning which occur within a training sequence? Since children start at a lower level than adults, but learn as great a percentage, we need to give credit to the child for amount of improvement compared to where he started rather than to ultimate level reached. If we could establish the sequence in which prosthesis learning occurs it would allow us to mark the starting and ending points in performance for a given period of training more meaningfully.

The problem of learning in the young child also must be defined as to when to expect insight learning and when to teach for small increment learning. According to the studies cited, reliable and extensive insight learning is rarely seen before age six. Therefore the approach to those young children under this age should not be a "problem solving" approach. Perhaps this is why we see little "pre-positioning" before this age.

To discover how closely the amputee child follows a sequence parallel to the development of normal prehension, we must set up steps of prosthesis operation to parallel those of development of normal hand function. Then we must observe and record whether or not this pattern occurs.

The sequence of learning proposed by Dennis appears to contain many of the elements seen in the development of normal prehension. The terminology differs and not all phases are covered. Since this sequence evolved from observing a large number of child amputees, it appears that using this as a starting point, standardizing terminology, and filling in some areas would be

a good place to begin a study of prehension in child amputees.

REFERENCES

1. Gesell, A., and H. M. Halverson. "An Experimental Study of Prehension in Infants by Means of Systematic Cinema Records," *Genetic Psychology Monograph*, X:2-3 (Aug.-Sept.) 1931.
2. McGraw, M. B. "Appraising Test Responses of Infants and Young Children," *Journal of Psychology*, XIV, 89-100, 1942.
3. Hilgard, E. R. *Theories of Learning*. New York: Appleton Century Crofts, 1952.
4. Gesell, A. "The Ontogenesis of Infant Behavior," in Carmichael, L., Ed., *Manual of Child Psychology*. New York: John Wiley and Sons, 1954.
5. Ruess, A. L., A. Dally and E. F. Lis. "The Gesell Developmental Schedules and the Physically Handicapped Child," *American Journal of Occupational Therapy*, XIII:3 (May-June) 1959.
6. Munn, N. L. "Learning in Children," in Carmichael, L., Ed., *Manual of Child Psychology*. New York: John Wiley and Sons, 1954.
7. Hebb, D. O. *The Organization of Behavior*. New York: John Wiley and Sons, 1949.
8. Abel, L. B. "The Effects of Shift in Motivation Upon Learning of a Sensorimotor Task," *Archives of Psychology*, XXIX:205, 1936.
9. Keister, M. E. "The Behavior of Young Children in Failure: An Experimental Attempt to Discover and to Modify Undesirable Responses of Pre-school Children to Failure," *University of Iowa Studies in Child Welfare*, XIV, 27-82, 1938.
10. Hebb, D. O. "The Effects of Early Experience on Problem Solving at Maturity," *American Psychologist*, II, 306-7, 1947.
11. Taylor, G. A. and A. I. Gates. "The Acquisition of Motor Control in Writing by Pre-school Children," *Teachers College Record*, XXIV, 459-468, 1929.
12. Gesell, A. "Maturation and Infant Behavior Patterns," *Psychology Review*, XXXVI, 307-319, 1929.
13. Sears, R. R., N. H. Pintler and P. S. Sears, "Effects of Father Separation on Pre-school Children's Doll Play Aggression," *Child Development*, XVII, 219-243, 1946.
14. Schmidt, H. O. "The Effects of Praise and Blame as Incentives to Learning," *Psychology Monograph*, LIII:3, 56-352, 1941.
15. Grace, G. L. "The Relation of Personality Characteristics and Response to Verbal Approval in a Learning Task," *Genetic Psychology Monograph*, XXXVII, 73-103, 1948.
16. Landreth, C., G. M. Gardner and B. C. Eckhardt. "Teacher Child Contacts in Nursery Schools," *Journal of Experimental Education*, XII, 65-91.
17. Maier, N. R. F. "Reasoning in Children," *Journal of Comparative Psychology*, XXI, 357-366, 1936.
18. Gottlieb, M. Unpublished data accompanying *Technical Report No. 21*, "Force and Excursion Requirements for the Child's Prehension Device," Dept. of Engineering, Univ. of Calif. at Los Angeles, July, 1954, (Mimeographed).
19. Mursell, J. L. *Psychological Testing*. New York: Longmans, Green Co., p. 198, 1947.
20. Richardson, G., and Aida Lund. "Upper Extremity Prosthetic Training for the Young Amputees," *American Journal of Occupational Therapy*, XIII:2 (March-April) 1959.
21. Dennis, J. F. Personal interview, May, 1959, UCLA.

AN INVESTIGATION OF BODY SCHEME IN ADULTS WITH CEREBRAL VASCULAR ACCIDENTS*

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THE PROBLEM

The purpose of this study was to determine whether or not body scheme disturbance was a frequent problem of adults with cerebral vascular accidents and to ascertain if age, sex or duration of impairment was associated with the degree of such a disturbance. Because a standardized and quantified test of the body scheme apparently did not exist, the development of one became the secondary purpose of the study. It was not intended that this test be used to perform the diagnostic functions of a neurologist. The intention was to provide a standardized method of investigating the integrity of the body scheme which would fulfill the above purpose of this paper and would serve as an evaluation instrument to assist the clinical therapist, especially in training in the activities of daily living.

Importance of the study. Most occupational therapy demands some purposeful movement on the part of the patient. The body scheme is one of the essential elements involved in purposeful motor behavior.^{1,2} If body scheme disturbance is a frequent concomitant of cerebral vascular accidents, then every patient with such a diagnosis who is referred to occupational therapy should be tested to determine the presence, absence or degree of such a disturbance. A patient with an impaired body scheme will experience greater difficulty with motor performance than would seem warranted by the residual neuromuscular disability. These patients frequently demonstrate the greatest difficulty with the activities of daily living, which demand a good general knowledge of the body.³ For example, in learning dressing techniques, the patient must be able to orient the parts of his body and to understand their structural relationship before he can achieve independence in properly placing the garment on his body.

DEVELOPMENT OF THE TEST OF BODY SCHEME

An instrument called the "Test of Body Scheme" was developed for this investigation. To help determine the validity of this instrument, it was administered to two groups of adults matched as to age and socio-economic status. The first group of adults had experienced a cerebral vascular accident. The second group of adults had no known brain pathology. To determine reliability of this instrument, twenty-two of the

neurologically impaired adults were retested and the results compared with their original scores.

Development of the test items. All of the test items were developed from procedures presented in the literature as evaluating the body scheme. The Test of Body Scheme (see Appendix A) has seven sub-tests which can be divided into two general categories: those which test body identification, such as fingers and right and left body parts, and those which test general body reevaluation. These two categories were necessary in order to discover every disturbance of body scheme, whether caused by lesions which subserve the body scheme or by lesions which disrupt the orientation of personal space.

Nielsen⁴ in his clinical examination of patients with disturbed body schemes used procedures which suggested those in the first and second subtests. He emphasizes the necessity of using two approaches to finger identification: (1) having the patient name the designated fingers and (2) having the patient present the finger named by the examiner. The items included under each of these subtests evaluated the patient's ability to identify each finger.

The instrument used by Shontz⁵ suggested the items in subtests three, four, six and seven. He tested orientation of left and right by asking the patient to point to four different parts of the body, designating the desired side. He did not specify what body parts were used in his instrument. The body parts chosen for subtest three included those which were near as well as distant to the mid-point of the body. This was necessary because the greater the distance from the mid-point, the greater the difficulty of the item.⁴

*An abstract of a thesis presented to the faculty of the graduate school of the University of Southern California, Los Angeles, California, in partial fulfillment of the requirements for the degree of master of arts (occupational therapy).

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†The body scheme is the mental awareness that an individual possesses of the structure of his body which enables him to identify or orient his body to understand the relationship of the parts of his body and to each other.

Shontz tested body identification by asking the patients to point to the following body parts: an eye, a foot, an ear, a shoulder, a leg and an elbow. Subtest four, which was developed from this procedure, includes three of the same items: the foot, ear and leg. The cheek was substituted for the eye in one item because it was thought to be safer. The arm and hand were substituted for the shoulder and elbow in order to match the terms used for the lower extremity.

Subtest six, assembling a puzzle of a man, was included as a simplified version of subtest seven. It demands no creative effort on the part of the patient. To eliminate cues as to how to assemble the puzzle, all the pieces were cut away in the same manner. Each piece fits into the trunk of the figure at every one of the five cut away places. A knowledge of body structure is necessary in order to assemble the puzzle correctly.

In his investigation, Shontz asked the patients to draw a person. He allowed them to draw as much of the human figure as they desired. In order to provide a common basis for quantification, subtest seven demands the patient draw an entire person. It allows the individual to elaborate as much or as little as he wishes, as long as he represents a full length figure.

The examination of five patients with disturbed body schemes by Neilsen and Sult⁶ contained items which suggested those in subtest six. The only clue as to the exact procedures they used is included in this statement: "However, he visualized his head as above his shoulder and his mouth as in the lower part of his face."⁶ From this indication of their procedures, five statements concerning the structure of the body were developed. Three of these statements involved parts of the body which the patient could not see without the aid of a mirror. In this they were similar to the items used by Neilsen and Sult. Visual cues could be obtained for the remaining two items. Visual cues, however, are not thought to be helpful.⁴

Since obtaining valid test results may be complicated by such factors as aphasia, deafness and poor eyesight, slightly different tasks which required varied methods of communication were included under subtests one, three and five. This increased the future usefulness of the test with patients who had multiple handicaps.

Population. The subjects for the study were selected from the general patient population at Los Angeles County Harbor General Hospital, the California Rehabilitation Center, Santa Monica, and John Wesley County Hospital, Los Angeles. All patients were tested who were available during the visits of the investigator and who met the following criteria: (1) had exper-

iened one or more cerebral vascular accidents, (2) were over eighteen and under eighty-six, (3) had no known brain pathology from another disease or condition, (4) were not critically ill and (5) had an understanding of elementary English. There were sixty-five subjects, nine of whom had poor vision, three were partly deaf and five had some type of aphasia.

The forty-four subjects in the second group, who will be referred to as the neurologically non-impaired group, were selected from the patients at John Wesley County Hospital and the Los Angeles County Harbor General Hospital. They met the following criteria: (1) had no known brain pathology, (2) were over eighteen and under eighty-six years of age, (3) were not in a critical condition and (4) had an understanding of at least elementary English.

The diagnoses included in this group were: cardiac conditions, eighteen; fractures, eleven; cirrhosis, five; polyneuritis, three; diabetes, two; amputations, two; osteoarthritis, one; dermatitis, one; metabolic imbalance, one; and tuberculosis, one.

The two groups tested were matched as to age and socio-economic group. It was not possible to obtain intelligence quotients, but the groups were assumed to be intellectually similar on the basis of similar occupations.

The group with cerebral vascular accidents had a mean age of 59.58 years and a standard deviation of 1.37 years. The neurologically non-impaired group had a mean age of 57.61 years and a standard deviation of 1.32 years.

TEST VALIDATION

Construct validity of the test was supported by the fact that the test procedures were derived from those suggested in well established neurological literature.

Empirical validation was achieved by comparison of the scores of the neurologically impaired and non-impaired groups. The test yielded a score of 0 to 42, the higher the score, the better developed the concept of body scheme. Dividing each group into those subjects scoring 0 to 40 and 41 or 42, a chi square test of independence of populations yielded a coefficient significant at the .001 level. Using a score of 40 or below as indication of body scheme disturbance yielded seven false positives, i.e. seven out of forty-four presumed neurologically normal individuals would have been incorrectly judged as deficient in body scheme had the test been used to evaluate them. The lowest score made by a neurologically normal subject was thirty-seven. It would seem wise to henceforth use scores of 0 to 39 as indicative of deficient body scheme concept. Test results, in any case,

should be combined with the professional judgment of the therapist.

A subtest analysis of subjects in both groups who made errors appears in Table I. It appears that subtests one through five are highly discriminatory between neurologically impaired and non-impaired, while subtests six and seven are less discriminatory. The value of subtests six and seven is supported by the number of subjects in the neurologically impaired group who made errors in these subtests.

RELIABILITY OF THE TEST

The reliability coefficient of the instrument, computed from a Pearson product-moment correlation of test and retest scores of twenty-two neurologically impaired subjects was .98.

TABLE I
A Subtest Analysis of the Number of Neurologically Impaired and Non-Impaired Subjects Who Made Errors

	Number of Neurologically Impaired Subjects	Number of Neurologically Non-impaired Subjects
Subtest one	20	0
Subtest two	18	0
Subtest three	7	0
Subtest four	11	0
Subtest five	18	1
Subtest six	24	7
Subtest seven	33	4

TEST OF THE HYPOTHESIS

The major research hypothesis of the study was: adults with cerebral vascular accidents frequently have disturbance of body scheme. Thirty-eight of the sixty-five subjects with cerebral vascular accidents made scores ranging from twenty to forty. The above chi square testing the independence of the neurologically impaired and non-impaired may be interpreted to support the research hypothesis at a very significant level.

The "t" test of significance of difference between male and female scores was not significant at the .05 level. Sex was not a factor determining score.

A Pearson product-moment correlation of age and scores of subjects was +.156, which could be considered a negligible association between increased age and poorer body scheme concept.

A Pearson product-moment correlation between duration of the impairment and total score was +.246. The duration of impairment ranged from two weeks to seven years. While there was a small positive relationship between lower scores and the recency of onset of the condition, the relationship was slight.

SUMMARY AND CONCLUSIONS

The purpose of this investigation was to determine whether or not body scheme disturbance was a frequent problem of adults with cerebral vascular accidents and to ascertain if sex, age or duration of impairment was associated with the degree of such a disturbance. Because a standardized and quantified test of the body scheme apparently did not exist, it was necessary to develop one.

Since a functional body scheme is one of the essential elements of any purposeful motor behavior, it is necessary for successful performance of activity in occupational therapy. A patient with a disturbance of body scheme would have a particularly difficult time with those activities of daily living which require the ordered movement of one part of the body on another.

A simple reliable test was developed from the clinical examinations of body scheme used by neurologists. This test was thought to have retained the construct validity of its sources.

Sixty-five adults with a diagnosis of cerebral vascular accident and forty-four adults who had no known brain pathology were tested. These two groups were matched as to age and socioeconomic status. In comparing the two groups, thirty-three adults with cerebral vascular accidents and seven adults from the neurologically non-impaired group made test scores which were indicative of a disturbance of body scheme when a score of forty or below was used as a cut-off point.

Correlations between the sex, age and duration of impairment and the total scores of the neurologically impaired adults were computed. Sex was not associated with the degree of disturbance. There was a negligible positive correlation between increased age and lower scores and a small positive correlation between recency of onset of insult and lower scores.

In the population tested, body scheme disturbances were found frequently enough to suggest the advisability of routine evaluation of this function in individuals with a cerebral vascular accident. The Test of Body Scheme developed and used in this investigation appears to be valid and reliable.

APPENDIX A

TEST OF BODY SCHEME

Body Identification

Finger recognition. Have the patient place his hands palms down on a flat surface. If a hand is spastic, a sandbag placed over the wrist may help keep the hand in correct position. Place the hand chart (See Figure 1) in front of the patient. Explain, "The fingers of your hand are to be called what they are called on the chart; the thumb, first, second, third and fourth fingers." Do not mark an answer incorrect in either subtest one or

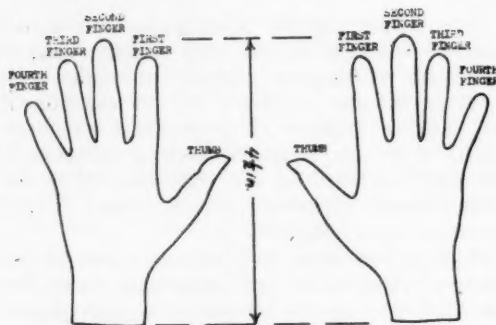


Figure I

two if the patient points to the correct finger on the wrong hand.

Subtest One

Remove the hand chart. Touch the patient's fingers in the order given below. Tell him, "Name the finger which I am touching." Do not ask him to designate right or left. Illustrate by touching and naming the right fourth finger and the right second finger.

Touch: Left thumb
Right third finger
Left fourth finger
Left second finger
Right first finger

If the patient is aphasic, keep the hand chart in front of him. Have him point to the proper finger on the chart as a response.

Subtest Two

Place the hand chart in front of the patient. As you point to the fingers on the chart in the order given below, tell the patient, "Move or point to the finger on your own hand which matches the one I am pointing to on the chart." Illustrate by pointing to the left second finger and the right first finger.

Point to: Right second finger
Left third finger
Right thumb
Left first finger
Right fourth finger

Orientation of right and left. Have the patient in such a position that his four extremities are easily reached. The patient should be able to see both his upper and lower extremities.

Subtest Three

Touch the parts of the patient's body in the order given below. Ask the patient, "Am I touching you on the right or the left side?" Do not mark an answer incorrect if the patient responds with the correct side but the wrong body part. Illustrate by naming the correct side as you touch the right wrist and the left knee.

Touch: Left cheek
Right elbow
Right ear
Left shoulder
Right knee
Left ankle

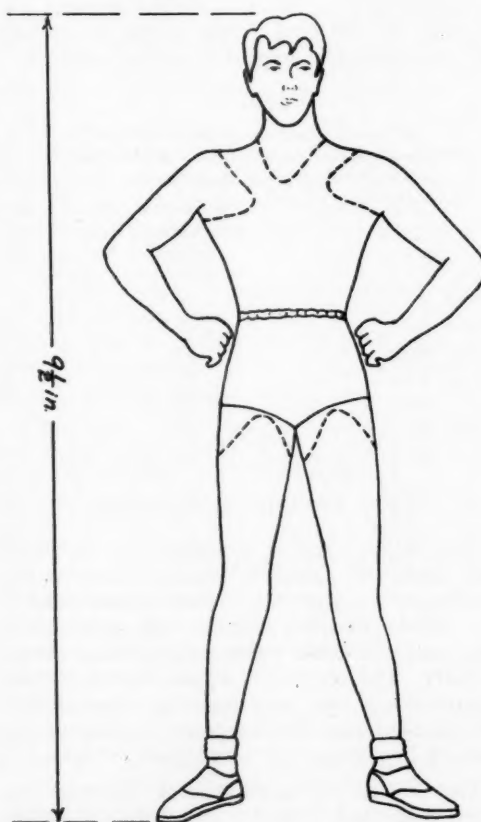
If the patient is aphasic, place a red card labeled "right" on his right side and a blue card labeled "left" on his left side. Explain to him that he is to touch the

correct card as a response. Cover the cards before you touch each part, covering them afterwards for the patient's answer.

Subtest Four

Say to the patient, "Point to or raise the parts of your body as I name them," or "as you read them." The correct body part as well as the correct side is demanded. Illustrate by naming and pointing to the right arm and the left cheek.

Name: Left hand
Right cheek
Left leg
Left ear
Right foot
Right arm



Cut on dotted lines.

Figure II

BODY REVISUALIZATION

Subtest Five

Read the patient the following statements or allow him to read them. Explain to him that he is to make an affirmative or negative response, depending on the truth of the statement. The response can be verbal, or written or the patient may shake his head yes or no, whatever is for him the easiest method of communication. Ask the patient, "Are these statements true or false?" Illustrate by reading the following statements aloud and answering appropriately.

Your elbow is below your shoulder. (True.)

Your foot is above your ankle. (False.)

The test items are:

Your mouth is below your chin.
Your eyes are above your forehead.
Your knees are below your hips.
Your hands are at the end of your arms.
You have one chin, one nose and one mouth.

Subtest Six

Have the patient assemble a jigsaw puzzle of a man similar to that illustrated in Figure II. Lay the puzzle in front of the patient so that the picture side of each piece is upright. The pieces should be in the following order from left to right; legs, arms, head and trunk. Say to the patient, "See if you can put this man together."

Subtest Seven

Give the patient a pencil or pen and a pad of paper approximately five and a half by eight and a half inches. Instruct the patient to draw a person by saying, "I want you to draw an entire man."

QUALIFICATION OF THE TEST

Each correctly answered item in subtests one through five is given one point. In subtest six, each piece correctly placed on the trunk is given one point, with a possible total of five points.

The scoring of the drawing in subtest seven is limited to broad characteristics so as not to penalize those with little artistic talent. It is not the intention to judge the drawing by aesthetic standards but to test the concept of the general appearance of the human figure. The scoring is as follows:

1. Total of four points for the presence of all body parts. Points are divided as follows:

One point—head

One point—trunk

Two points—two arms if figure is full face, or one arm if figure is in profile.

Two points—two legs if figure is full face, or one leg if figure is in profile.

2. Total of three points for the correct proportion of body parts to the trunk. Points are divided as follows:

One point—area of head not more than one-half or less than one-fifth of the length of the trunk.

One point—at least one arm not longer than twice the length of the trunk nor less than one-half the length of the trunk.

One point—at least one leg not longer than twice the length of the trunk nor less than one-half the length of the trunk.

3. Total of one point for correct postural alignment.

One point—figure in a normal standing or sitting position.

4. Two points for the correct juxtaposition of the extremities with the trunk. Points are divided as follows:

One point—the arms emerge from the upper one-half of the trunk.

One point—the legs emerge from the lower one-half of the trunk.

REFERENCES

- Head, Henry and Holmes, Gordon. *Studies in Neurology*. London: Oxford University Press, 1920.
- Riddock, George. "Phantom Limb and Body Shape," *Brain: A Journal of Neurology*, LXIV:4 (December, 1941), 197-222.
- Kremer, Michael. "Sitting, Standing and Walking," *British Medical Journal*, II (July 12, 1958), 63-68.
- Nielsen, J. M. "Gerstmann Syndrome," *Archives of Neurology and Psychiatry*, XXXIX:3 (March, 1938), 536-559.
- Shontz, Franklin C. "Body Concept Disturbances of Patients with Hemiplegia," *Journal of Clinical Psychology*, XII:3 (July, 1956), 293-295.
- Nielsen, J. M., and Sult, Jr., Chas. W. "Agnosias and the Body Shape," *Bulletin of the Los Angeles Neurological Society*, IV:2 (June, 1939), 69-76.

BIBLIOGRAPHY

- Critchley, MacDonald. "The Body Image in Neurology," *Lancet*, I (February 25, 1950) 335-340.
- Dorland's Illustrated Medical Dictionary. 23rd ed. Philadelphia: W. B. Saunders Co., 1957.
- Gerstmann, Josef. "Some Notes on the Gerstmann Syndrome," *Neurology*, VII:12 (December, 1957) 866-869.
- Head, Henry, and Holmes, Gordon. "Sensory Disturbances from Cerebral Lesions," *Brain: A Journal of Neurology*, XXXIV:2 (1911-1912), 102-254.
- Olson, C. W. and Rub, C. "Anosognosia and Autotopagnosia," *Archives of Neurology and Psychiatry*, XXXVI:2 (August, 1941), 340-344.
- Sandifer, P. H. "Anosognosia and Disorders of Body Scheme," *Brain: A Journal of Neurology*, LXIX:2 (June, 1946), 197-222.
- Schilder, Paul. *The Image and Appearance of the Human Body*. New York: International University Press, 1951.
- Scott, W. Clifford M. "Some Embryological, Neurological, Psychiatric and Psycho-Analytic Implications of the Body Scheme," *International Journal of Psycho-Analysis*, XXIX:3 (1948), 141-155.
- United States Employment Service. *Dictionary of Occupational Titles*. Government Printing Office, 1949.

Work Evaluation . . .

(Continued from page 69)

There is one last consideration. This is the implication of a testing and evaluation program to our patients, our media and our selves. It means that we are able to offer a more thorough program to our patients by determining their vocational needs and assisting in their fulfillment. It means that occupational therapy can offer a scientific approach. It means that the occupational therapist has a new and stimulating concept. All of these factors have a far-reaching implication as they extend to the potential occupational therapist, our students, a challenge to enter our profession.

In conclusion, certain basic essentials must be considered and adopted in order to provide an effective work evaluation program. It is apparent that such a program must be composed of several phases. The phase which has been discussed today, namely work sample testing, is just one step towards the determination of the patient's ultimate vocational objective. This paper has been an attempt to outline work evaluation essentials and to show the effectiveness of occupational therapy when planned with a group of experts and executed with a goal in mind.

A STUDY TOWARD A THEORY OF NEUROMUSCULAR EDUCATION THROUGH OCCUPATIONAL THERAPY

PATRICIA ANN CURRAN, M.A., O.T.R.

The problem and purpose of the study. In this study the term "theory" will refer to a hierarchy of ideas, i.e. concepts or principles organized to explain a related cluster of data or observable facts. Authorities disagree concerning the relative contributions to scientific developments that are made by empirical observations and theoretical explanations. Most agree, however, that the two together forge a stronger movement than either alone.¹

If one accepts this point of view and is cognizant of the fact that occupational therapy rests predominantly on empiricism,² it follows that one will become concerned about the present lack of theoretical sophistication in the field and will seek ways to alter this condition. Turning specifically to the area of neuromuscular education through occupational therapy, the need for a theoretical explanation of motor behavior and motor restitution following brain damage is further realized when one discovers that every known physiological fact does not provide such explanations.³

Therefore the purpose of this study is to contribute to the beginning formulations of a theory of neuromuscular education for occupational therapy. This objective first requires an evaluation of contemporary neuromuscular treatment rationale.

PART I

BASIC NEUROMUSCULAR TREATMENT CONCEPTS

The basic neuromuscular treatment concepts have been sought in the rationale for the main treatment techniques of the major schools of neuromuscular treatment.

Fay's major techniques. Fay's techniques revolve around (1) various "unlocking" procedures which Semans defines as the "inhibition of one reflex pattern by another . . .,"⁴ and (2) primitive patterns of motion which can be elicited and developed in the brain injured patient so that he experiences coordinated movement.⁵ These patterns should be taught and learned in the order that they evolve phylogenetically, according to Fay, as each pattern provides a basis for the control of the higher, more complex patterns, including those movements typical of man.⁶ Both the primitive patterns and the "unlocking reflexes" are elicited by placing the patient in certain positions which act as the fa-

cilitative stimuli for the primitive movement sequences.

Rationale and concepts related to Fay's techniques. One concept apparently basic to Fay's techniques is that temporally organized patterns of movement are inherent to man's nervous system, and that these patterns have a sequential facilitating effect on each other.⁷ Subsidiary to this concept is the idea that there are appropriate stimuli to elicit the movement pattern (Figure 1).

Kabat's major techniques. Resistance to spiral, diagonal patterns of motion in the limb and trunk seems to be Kabat's basic technique. Superimposed on this are (1) varieties of isotonic and isometric reversal of antagonists; (2) reinforcement techniques which include resistance to a strong pattern to facilitate a weak one, or resistance to major muscle components of a pattern to augment that pattern; (3) traction and approximation of joints; (4) manual contact; and (5) verbal stimulus.⁷

Various reflexes such as the extensor thrust, grasp reflex, tonic neck reflex and stretch reflex were suggested as useful to motor learning by summing with voluntary effort,^{8,9} but use of these reflexes is becoming a source of considerable controversy.⁴

Rationale and concepts related to Kabat's techniques. On the surface, it seems as if three concepts can be stated as basic to all these techniques. Some of the techniques reflect all of these concepts, but most reflect only one or two.

The first concept is that proprioceptive impulses have important guiding and coordinating functions in the movements of muscles.¹⁰ The rationale for joint traction and approximation, contactual stimuli, resistance, reversal of antagonists, stretch reflexes and other reflexes seems to be primarily related to this concept, since the proprioceptive end-organs are directly stimulated to vary the amount and type of input and thus manipulate the output. The techniques of mass patterns and reinforcements also fit under this concept^{8, 11} even though they appear to be equally related to the

*An abstract of a thesis presented to the faculty of the graduate school of the University of Southern California in partial fulfillment of the requirements for the degree of master of arts (occupational therapy). The author wishes to acknowledge the assistance of the National Foundation for the fellowship grant which made this investigation possible.

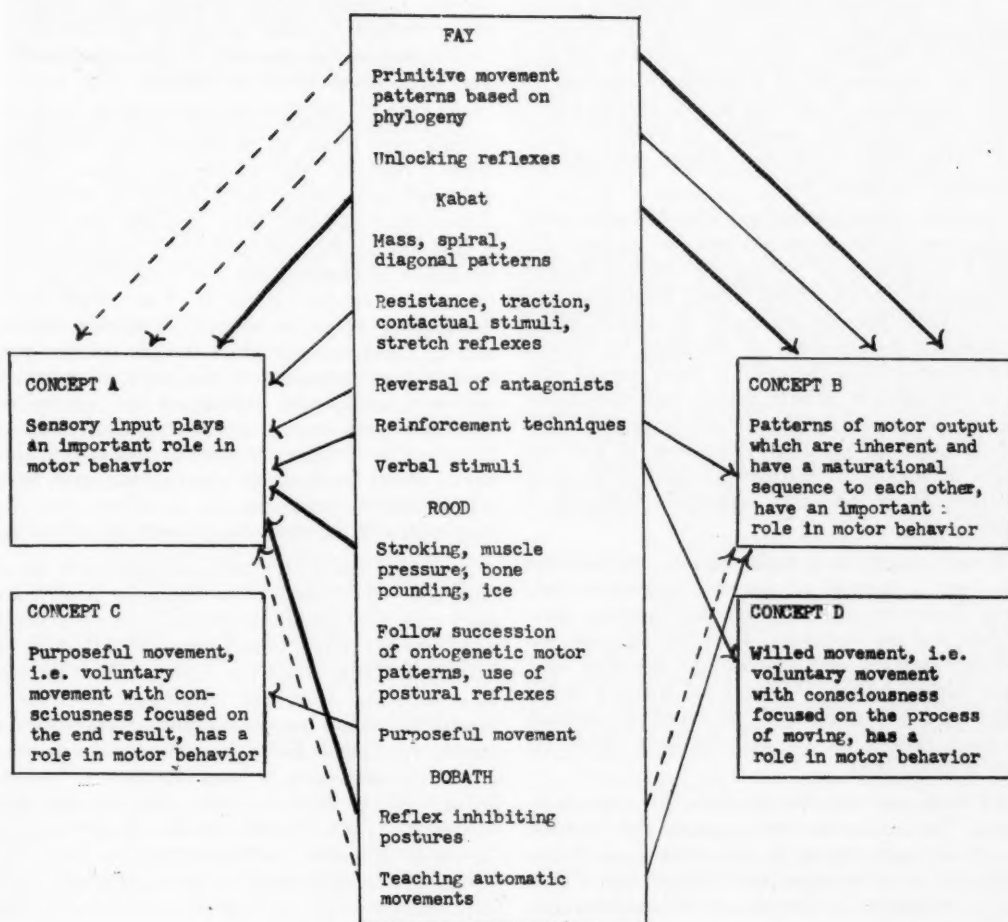


Figure 1

next basic concept — notions concerning patterns of movement. This concept pertains to the existence of a neuromuscular process that provides a predisposition toward certain patterns of movement.¹⁰

The use of verbal stimuli, presented as commands to "relax" or "contract," is specifically covered as part of the treatment techniques by Knott.⁷ This procedure could be related to a third concept, which might be stated: Willed movement has a role in motor behavior. (Figure 1, Concept D).

Rood's major techniques. Rood's main techniques involve various ways to stimulate sensory receptors. She uses pressure on the muscle and tendons, bone pounding, joint manipulation, cold or tactile stimulation to the skin and body positioning. These techniques are performed to reflexively facilitate or inhibit such patterns of movement as those found in the normal developmental sequence of man. These patterns are later incorporated into purposeful motion.

Rationale and concepts related to Rood's techniques. Three concepts seem to provide sufficient bases for the rationale of Rood's main techniques. She says, "Sensory stimuli are of primary importance in position and movement of the body."¹² Thus the primacy of sensory control over motor behavior, and particularly over motor learning, is the first concept, and all of those techniques to control and augment sensory input stem from this idea.

The second concept seems to be that there are inherent patterns of motion, such as those disclosed in the ontogenetic development of infants, that are influencing motor behavior. Rood uses these patterns, attempting to elicit and shape them with sensory stimuli.

Rood advocates utilizing a movement pattern in a purposeful way as soon as feasible. As she has also suggested avoidance of any conscious effort to move,⁴ this concept is interpreted to be different from the one Kabat (via Knott) utilized.

It can be expressed as follows: Purposeful movement plays a role in motor behavior (Concept C, Figure 1.) Purposeful movement refers to the fact that the conscious effort is primarily directed toward an end object and not focused on the movement itself, which is more apt to be involved in the verbal commands that Knott recommends (Concept D, Figure 1.)

Bobaths' major techniques. The Bobaths' main techniques can be organized into two groups. The first is the process of putting the child in various positions which are called "reflex inhibiting postures." These postures are based on normal infant ontogenetic development as described by Gesell. The therapist holds the child in these normal postures through any muscle spasms, but also allows the child to maintain the correct posture without aid as much as possible. According to the Bobaths, as the child increases his control of these postures, he is inhibiting abnormal pathological tone.¹³

Besides maintaining static postures, the Bobaths also have a method of teaching movement patterns. Following normal reflex development, Mrs. Bobath teaches automatic reactions such as the righting reflexes and equilibrium reactions and other higher reflexes.¹³ The main method of facilitating this learning is by providing the normal adequate stimuli for the reflexes after abnormal tone is diminished.

Rationale and concepts for Bobaths' main techniques. The main concept concerns the primacy of sensory stimulation in the learning and coordination of movement. Mrs. Bobath says: "Our whole treatment is directed toward making the child feel a normal posture, a normal movement. . . . All our movements are in response to sensory stimulation, and the quality of a movement depends on the guidance by sensory messages throughout its course."¹⁴

The second concept concerning pre-existent patterns of movement also seems to have a place in this treatment approach as noted in the ontogenetic sequence of "reflex inhibiting postures" and the training of automatic movements (Figure 1.) The Bobaths advise avoidance of voluntary effort in treatment. This seems to indicate that neither of the other two concepts that have appeared in the techniques unique to the Rood and Kabat styles of treatment are basic to this style of treatment.

CONCLUSIONS TO PART I

It seems as if the rationale for the main neuromuscular treatment techniques can be summarized in two basic concepts which for convenience will be called Concept A and Concept B (Figure 1). Since Concepts C and D are not used extensively in the rationale for the main techniques they

are not considered basic concepts. The aspect of motor behavior called voluntary movement, reflected in Concepts C and D, will be considered in Part III, but not as a basic concept.

This it appears that although these four schools of treatment differ in procedure, they all spring from a common basic conceptual ground. There are several reasons for the difference in techniques despite their common basic concepts. One reason is that among the four schools of neuromuscular treatment techniques, one can find differing emphasis on Concepts A or B. This ranges from Rood, who seems to be most interested in the sensory input and who uses the pre-existent patterns of movement mostly as a guide to treatment sequence, to Fay who emphasizes the patterns of movement and attends to sensory inflow only as a method of eliciting the pattern. Just as four different artists painting the same forms may have four different viewpoints, so it is here that the proportions of the two concepts vary considerably.

A second reason for differing treatment techniques to be derived from common basic concepts is that the specific emphasis given the general statement in Concept A or Concept B differs. Both Rood and Kabat could use Concept A to deduce their particular treatment techniques. It is noteworthy that Rood has placed more importance on sensory input than Kabat has. She speaks of sensory stimuli as having *primary* importance,¹² while Kabat refers to them as *guiding* and *coordinating* movement.¹⁰ The Bobaths and Fay do less to mechanically stimulate sensory receptors, but they seek postures that allow certain "normal" sensory patterns with their resultant effect on the central nervous system.

Concept B also has various interpretations. Fay selects the purposeful phylogenetic patterns to teach, Kabat takes interest in the spiral-diagonal quality of movement patterns in general, while Rood and the Bobaths use the ontogenetic patterns to plan the sequence of treatment and to facilitate useful movements. The extent to which the body is actively engaged in the pattern also varies. It may be the total body or one limb, or a combination of limbs and trunk.

PART II

SELECTION OF THEORIES FOR CRITERIA

The similarity between some of the ideas in general psychological theory and neuromuscular treatment rationale has often been noted by the investigator. Psychological theories are concerned with explaining the behavior of organisms. Learning, memory, perception, reaction, attention, thought and volition are a few of the facets of man's behavior that psychologists have tried to explain.¹⁶ Theories relevant to such processes

would be relevant to motor behavior because these processes are involved in motor behavior.

Therefore since the ideas should be quite similar, and since psychology is an older, more systematized science than occupational therapy, it is assumed that psychological theories can be advantageously used to evaluate present neuromuscular treatment theory for occupational therapy. The theories considered are the modern scientific descendants of ideas about man's behavior that have existed in various forms since the Greek civilization at least.

Behaviorism. A current school of psychology called "behaviorism" declares that only the observable physical events in behavior are needed to understand man's activities. The stimulus to the organism and its response are thus the object of study.¹⁵ Sometimes called "stimulus-response" or "S-R psychologists," the behaviorists believe that the simple reflex is the basic unit of behavior.¹⁶ It is understandable that acceptance of this process as the physiological unit underlying behavior has historically led to the implication that the input regulating the reflex regulates behavior. This is the concept of the sensory dominance of behavior, or sensationism¹⁶ which the behaviorists generally accept.

The central nervous system is described by the behaviorists as a telephone switchboard. A stimulus and its response will develop a neural bond through association, and behavior is a collection of these simple reflex units into a chain of reflexes. Memory is considered to be the result of a physical change in the specific neurones affected by the stimuli. Learning is explained as synaptic switching or re-coupling of neurones. The terms "connectionism" or "associationism" are often used to describe this type of explanation of man's behavior.

Holism. In contemporary psychology, there is a group of molar, holistic, centralistic, mentalistic theories that oppose the reflexology of behaviorism. The holists believe that the focus of the behaviorists on the elements of man's behavior does not reveal the essential properties of the whole. They think that the whole is more than the sum of its parts, that a new quality emerges from the specific combination of elements. Man is not a passive bundle of responses called forth by the stimuli of the environment. He performs as a unit, as a whole. His past experiences, his goals, purposes and future expectations combine with present stimuli to mold his response. Central neural activities and mental processes receive more attention in holistic theories.

Gestalt theory. One of the well known holistic theories is the Gestalt theory which is also called "configurationism." The Gestaltists consider the

mind or brain to have unifying properties of its own that would bring to form the essential unity of nature. According to the Gestaltists, insightful learning occurs by organization of a pattern of stimuli into a new configuration. Thus the Gestaltists disagree with the trial and error learning put forward by the associationists who postulate that responses are made at random until one is successful in eliminating the stimuli and that response is then retained or learned.

Organismic psychology. There is another holistic theory which, while not as well known as the Gestalt theory, can be more easily related to motor behavior. This is called "organismic psychology." Coghill, a representative of this school, thought that there was a totally integrated motor pattern equivalent to the sensory unit. Partial patterns become more or less individuated from this total inherent pattern. Far from considering the reflex as the basic unit of neural integration, as the behaviorists do, Coghill felt that local reflexes are a "... special feature within a more diffuse but dominant mechanism of integration of the whole organism."¹⁷

These ideas of Coghill's represent a nativistic as well as a holistic view of man. Nativists think that some genetically determined aspect of the nervous system is predominantly responsible for the behavior, or responses, of man. Historically the holists have been nativistic in their theorizing. The behaviorists, on the other hand, place less emphasis on inherent patterns of response. They theorize that chance responses are firmly established when they are successful in removing the stimuli. Thus the environment is given the predominant role in learning. This is called empiricism. One can recognize the heredity versus environment dichotomy in these theories.

The holistic conceptual nervous system differs from the telephone switchboard, reflex-dominated conception of the nervous system put forward by the behaviorists. Lashley has been a particularly fluent spokesman for the holistic conception of the nervous system. He says: "The cortex must be regarded as a great network of reverberatory circuits, constantly active. A new stimulus reaching such a system ... must produce wide spread changes in the pattern of excitation throughout a whole system of already interacting neurones."¹⁸

Theories combining the two extreme views. Sketching the main tenets of these divergent trends might leave the impression that all behavioristic theories and all holistic theories are in agreement among themselves. On the contrary a wide span of diverse opinions exists within each broad school of thought.

Many people question whether either of these theoretical strains has the whole truth. Perhaps both provide important explanations for different

types of phenomena. One can find a recent group of theories that combine the two extreme views in various ways.

Hebb's theory. In 1949, Hebb presented a neuropsychological theory.¹⁸ He considered that infant and mature learning must be quite different processes. The infant and child are forming neuron cell assemblies in the trial and error, slow type of learning that the behaviorists have demonstrated. Whereas the adult has already formed basic cell assemblies which can be grouped in various ways, and this process characterizes the insightful, single-trial, faster method of learning the Gestaltists have discussed.¹⁹

The learning of infancy is slow, according to Hebb, because the development of cell-assemblies requires the establishment of control of the association area of the brain by sensory events. But the cell assemblies formed by sensory stimuli ultimately can cause behavior without any immediately preceding event.¹⁹

Looking summarily at the holists and behaviorists, one sees that these two schools are divided on their explanation of the basic force initiating and molding behavior. Behaviorists say that the sensory stimuli fill this role, while the holists say it is the intrinsic unity of the organism. The question seems to become one of accepting the primacy of the reflex or the primacy of the self-determining unity of the organism or combining these ideas.

The terms "reflexism" and "determinant-holism" are brought into the discussion now in an effort to isolate the conceptual viewpoints of configurationism and connectionism as related to motor behavior.

Reflexism is the term selected to represent behaviorist concepts concerning motor behavior because it emphasizes the acceptance of the reflex as the basic unit of behavior. Motor learning and motor coordination can be explained as being predominantly due to sensory input. Complex movements can be explained as the result of combinations of simple responses, i. e. part to whole learning. Volition and purpose are denied or explained as a epiphenomenon dependent on sensory input.

For those with a determinant-holistic point of view, motor learning is predominantly related to the maturation of innate total patterns coupled with the individuation of partial patterns. This group holds that voluntary motion involves cognitive processes, or understanding and self-direction. The organism has an innate purpose to survive. Self-awareness, self-evaluation and self-direction are processes that augment reflexive machinery, affording it more adaptation for survival in a fluctuating environment.

PART III COMPARATIVE EVALUATION AND DEVELOPMENT OF NEUROMUSCULAR TREATMENT RATIONALE

To what degree is neuromuscular treatment rationale, as represented by Concepts A and B, substantiated by related psychological theories? The comparison begins by considering if current neuromuscular treatment theory favors the basic ideas of either or both the behavioristic and the holistic theories.

Concept A considered. At first glance, Concept A (sensory input plays an important role in motor coordination) may seem to be most closely allied with the behaviorists. Such a conclusion depends on whether this concept is based on acceptance of the reflex as the basis of behavior, with the related assumption that sensory input controls behavior. None of the theorists clarify their exact positions on these basic assumptions.

This writer contends that it is important to attempt to discover what viewpoints the various neuromuscular treatment schools hold on these concepts, because the position taken makes a marked difference in the resultant explanation of behavior.

With necessary caution, a summary of what appears to be the attitudes of the four treatment theorists toward a sensory dominance of behavior will be considered. Referring to Part I, Fay says little or nothing about sensory input; Kabat acknowledges the overwhelming influence proprioception has on motor coordination; Rood discusses the primary importance of sensory input, and the Bobaths state that movements are reactions to stimuli. From these statements, one seems to detect a trend toward more emphasis being placed on the importance of sensory input (Figure 1). It sounds as if Rood and the Bobaths might be willing to assume that sensory input dominates motor behavior. But, before coming to any conclusions, Concept B should be related to this question.

Concept B considered. Turning to Concept B (patterns of motor output that are inherent and have a maturational sequence to each other have an important role in motor coordination) it also is difficult to define the relationship of this concept to holism or behaviorism. It seems to be nativistic as it refers to maturation of inherent movement patterns. Since nativism has been historically associated with the holistic school of thought, there is some initial tendency to ally Concept B with that viewpoint.

Recalling the concept of self-direction and purposeful behavior that is associated with the holists, and noting how these ideas seem to parallel the concept of voluntary movement to which all the treatment theorists refer, it appears at first as if

one could say that Concept B reflects the basic assumptions favored by all the contemporary neuromuscular treatment theorists. This cannot be the conclusion, however, because voluntary movement can be explained in behavioristic terms so that it has no vestige of holistic or purposeful qualities to it.

Thus it must be concluded in this evaluation that Concept A and B are vague in meaning because basic assumptions and their implications are not clarified. This puts the theoretical structure for neuromuscular treatment on an uncertain foundation.

The psychological theories reviewed demonstrate that concepts which may seem to be obvious in meaning, like voluntary motion and reflexes, can be given extremely different interpretations and levels of importance depending on the basic assumptions of a theory. Examining the structure of the psychological theories also demonstrates how their basic assumptions are major determinants of their contentions. Therefore a lack of basic assumptions reduces the clarity and thus the usefulness of the entire neuromuscular theoretical structure.

Step one: basic assumptions must be clarified. It is the conclusion of this investigator that a theoretical position which combines the assumptions and ideas of reflexism and determinant-holism is the best solution for the present status of neuromuscular treatment theory. This suggestion is the result of studying general psychological theories, but one can find theory and data in neurophysiology that also supports such a move. This supportive argument will be covered briefly because first perusal of neurophysiological ideas may cause one to conclude that they favor a reflexistic view of motor behavior. To accept a combination of reflexism and determinant-holism, the existence of both reflexive and willed, purposeful motor behavior must be assumed. Evidence for the existence of both these assumptions must be found in order to show that the field of neurophysiology generally supports a combined view.

The assumption of the reflex as the basis of behavior, particularly motor behavior, is a view often attributed to Sherrington.^{20, 17, 15} According to Adrian, Sherrington made no assumptions that the reflex was the basis of higher neural processes, although he believed it to be the crux of integration in the spinal cord and lower centers of the brain.²² Sherrington, himself, said: "It would seem to be reflex action and not mind which primarily integrated the motor individual."²³ Since he stipulated that motor integration was primarily reflexive in nature, one can conclude that he thought the mind also may be essential to mature motor coordination. Since the contributions of the "mind"

and centralistic, higher cortical mechanisms, such as those that cause volitional movement, seem closely related, Sherrington's statement can be interpreted as favoring a combination of the assumptions in reflexism and determinant-holism.

Goody is another neurophysiologist whose writings may appear to support the sensory dominance of behavior. His oft-cited quotation states that motor learning is dependent on patterns of sensation, not patterns of motion.²⁴ This comment does not lead to the conclusion that sensation commands behavior or that there is no movement independent of sensation in its initiation, although it would be easy to endow it with such an interpretation. Rather he fosters the interdependence of sensory and motor functions in the process of voluntary motion. Recalling that the motor system has been considered the primary source of voluntary motion, Goody's emphatic proclamations about the afferent system can be interpreted as an effort to bring the afferent system up to the same level of importance in the motor coordination process that the efferent system had. There is no indication that he advocates an acceptance of sensory dominance as the behaviorists do.

Walshe, as well as Goody, is held responsible for the dethronement of the pyramidal tract.²¹ One popular quotation from an article written by Walshe sounds as if he definitely subscribes to the sensory dominance of behavior. "It would seem . . . that we may look upon the pyramidal system as an internuncial, a common pathway by which the sensory system initiates and continuously directs, in willed movements, the activities of the nervous motor mechanisms." His very next sentence however is: "The sensory afflux is a condition of willed movement . . ." He subsequently explains that he would be committing the same error as those who over-emphasize the functions of the pyramidal system if he ". . . developed the argument as though willed movements were simply and immediately responses to sensory stimuli."²⁵

Such statements cannot lend any credence to the idea, which could be confused with the dethronement of the pyramidal tract, that Walshe has tried also to dethrone volition and crown sensationism in its place. Therefore Walshe, too, is interpreted by this investigator as supporting a combinative view of the assumptions basic to determinant-holism and reflexism.

Turning from the theoretical views of certain neurophysiologists, one can look to the data for some support for the combination of reflexism and determinant-holism. Granit and Kuffler demonstrated the existence of a small motor fiber that innervates the muscle spindle thus changing the length of the spindle and making it more or less sensitive. This can be interpreted as evidence for

the idea that sensory input is focused and controlled by central neural processes.²² Hagbarth discusses other data concerning indirect methods by which sensory messages are subjected to a supraspinal control.²⁶

Such data can be used to substantiate a holistic view of motor behavior, since central processes have been found to regulate sensory reception. Logically, such examples can only be taken to indicate that some instances of central dominance exist, just as Sherrington has shown the existence of some instances of completely reflex action. But no one has demonstrated that either one or the other is the total explanation of motor behavior. Therefore it is the conclusion of this investigation that both must be considered in the current development of neuromuscular treatment.

Step two: the knowledge of motor behavior must be organized. If one "wills" to do something that involves a sequence of movements, what processes will be initiated? Lashley postulates three central cortical mechanisms to explain serial motor behavior. One of these is the intention to act, or a concept of the goal, which he calls a "determining tendency." This provides the guide for the motor plan which he calls a "schema of order," and which he describes as independent of the motor units activated for the movements. There is also a general "priming of necessary units" to be used in the action. With a process like a scanning mechanism, the motor plan is executed by utilizing the primed motor units.¹⁸ Pribham refers to a "place-keeping mechanism"²⁷ which seems to be a fourth process necessary for serial motor behavior. There is nothing of comparable depth in neuromuscular treatment rationale to match this example of how autonomous processes could contribute to motor behavior.

Such factors of motor behavior are of particular importance for occupational therapy where voluntary movement, with its satisfaction and disappointments, is the primary tool of treatment. It is suggested therefore that the second step toward a theory of neuromuscular education is to expand, clarify and organize the current knowledge relevant to such factors.

Step three: the relationships between the factors of motor behavior should be explained. Illustrating the process involved in step three and carrying the combination of reflexism and determinant-holism one step further, consider the problem of how to combine reflex-dominated motor behavior with motor behavior that represents higher neural processes such as volition, cognition, "scheme of order" and "place-keeping mechanisms." Hebb felt that infant learning was dominated by reflexes, but "... motor learning at maturity is perceptual learning in the first place."¹⁹

Therefore in this brief survey, at least two forms

of motor learning are suggested. The first form of motor behavior, representing reflex-dominated behavior, would be exemplified in an infant's learning to walk. The mature motor learning, representing higher cortical mechanisms, can be found in the process of learning to dive or play tennis. It seems likely that the same muscle, depending on whether it is activated in one or the other types of motor behavior, would be subject to a considerable variation in the directness of sensori-motor control and the degree of cortical control.

Step four: theories and data concerning abnormal motor function must be related to existing theory. A useful theory of motor behavior could be existent at the end of step three. To render such a theory particularly useful for neuromuscular education, one would need to incorporate the data concerning abnormal motor function. For example, one would want to consider how restitution of motor function following faulty neuroembryological development, or disruption during infancy, or disturbance at maturity is related to all of the factors of motor behavior.

In short, a conceptual nervous system, utilizing the present neurophysiological data and explaining the observable normal and abnormal motor behavior is needed.

Step five: treatment principles and treatment techniques must be deduced from the theory. Following step four, one would be in a good position to deduce principles of treatment and treatment techniques from the theory. This final step would turn a theory of motor behavior into a theory of neuromuscular treatment which, in turn, would be particularly suited to the occupational therapy profession by the media through which the principles were interpreted, the emphasis on principles that could be most easily utilized by the media.

There are numerous techniques planned to utilize and manipulate reflex mechanisms. There is a technique which utilizes conscious effort to control some facet of motor behavior, and one could point to the purposeful task in occupational therapy as a method of manipulating whatever higher cortical mechanisms there are, but techniques for the development of determinant-holistic motor behavior could be much more specific and more numerous than this.

Turning to the field of physical education, which is more involved with instruction of motor skills that do not have ancestral traces in the nervous system, the Wisconsin school is advocating detailed cognitive feedback of the reasons for the failure or success of a movement pattern.^{28,29} The Air Force has done studies concerned with motor skill. One, in particular, done by Bartlett²¹ concludes that only key cues in an activity rise to consciousness. These examples seem to suggest

that there could be a group of specialized techniques to influence the higher motor mechanisms.

It seems that the occupational therapist is particularly responsible for developing treatment techniques suited to higher cortical motor mechanisms because the media in that field require these processes.

SUMMARY AND CONCLUSIONS

Neuromuscular treatment rationale as represented by its basic concepts has been compared with basic psychological theories explaining man's behavior. From this comparison, five steps toward a theory of neuromuscular education were listed. Along with these steps, initial suggestions concerning treatment rationale were made. A full-blown neuromuscular treatment theory is, no doubt, a long way off. But this investigation strongly suggests that it could be far more elaborate than it is, and that related fields, such as psychology, could be used far more extensively than they have been in the process of developing such a theory.

REFERENCES

- Whitehead, Alfred, N. *Aims of Education*. New York: The MacMillan Co. 1929.
- Reilly, M. "An Occupational Therapy Curriculum for 1965." *American Journal of Occupational Therapy*, XII (1958) 293-299.
- Bucy, Paul C. "Is There a Pyramidal Tract?" *Brain*, LXXX (1957), 376-392.
- Semans, Sarah. "Physical Therapy for Motor Disorders Resulting From Brain Damage." *Rehabilitation Literature*, XX:4 (April) 1959.
- Fay, Temple. "Rehabilitation of Patients with Spastic Paralysis." *Journal of International College of Surgeons*, XXII:2 (August) 1954.
- Abbott, Marguerite. *A Syllabus of Cerebral Palsy Treatment Techniques*. New York: United Cerebral Palsy, June, 1954.
- Knott, M. and D. Voss. *Techniques of Proprioceptive Neuromuscular Facilitation*. New York: Harper Bros., 1956.
- Kabat, H. "Central Mechanism for Recovery of Neuromuscular Function." *Science*, CXII:2897 (July 7) 1950.
- Ayres, A. Jean. "Proprioceptive Facilitation Elicited Through the Upper Extremity." *American Journal of Occupational Therapy*, IX:2 (March-April) 1955.
- Loving, M. C. and Kabat, H. "Dynamics of Normal Voluntary Motion in Man." *Permanente Foundation Medical Bulletin*, X (August) 1952.
- Kabat, H. "Central Facilitation: The Basis of Treatment for Paralysis." *Permanente Foundation Medical Bulletin*, X:4 (August) 1952.
- Rood, M. S. "Neurophysiologic Reactions as a Basis for Physical Therapy." *The Physical Therapy Review*, XXXIV:9 (1954) 444-449.
- Bobath, Berta. "The Treatment of Motor Disorders of Pyramidal and Extrapyramidal Origin by Reflex Inhibition and by Facilitation of Movements." *Physiotherapy* (May) 1955.
- Bobath, Berta. "Treatment of Cerebral Palsy by Reflex-Inhibition and Facilitation of Movement." *Symposium of the Bobath Method*, University of California, Los Angeles, September 6th, 1958. (Mimeographed.)
- Woodworth, Robert S. *Contemporary Schools of Psychology*. New York: The Ronald Press Co. 1948.
- Boring, Edwin G. *A History of Experimental Psychology*. New York: Appleton-Century-Crofts, Inc., 1957.
- Coghill, George E. *Anatomy and the Problem of Behavior*. Cambridge: The University Press, 1929.
- Lashley, K. S. "The Problem of Serial Order in Behavior." *Cerebral Mechanism in Behavior*, ed. L. A. Jeffress. New York: Wiley, 1951.
- Hebb, D. O. *The Organization of Behavior; a Neurophysiological Theory*. New York Wiley, 1949.
- Psaki, R. C. and W. J. Treanor. "Afferent Influences in the Management of Spastic Paresis." *Archives of Physical Medicine and Rehabilitation* (April) 1956.
- Hellebrandt, F. A. "The Physiology of Motor Learning." *Cerebral Palsy Review* (July-August) 1958.
- Adrian, D. "Sherrington Memorial Lecture: The Analysis of the Nervous System. *Proceedings of the Royal Society of Medicine*, L:12, 1957.
- Sherrington, Charles S. *Man on His Nature*. Garden City, N. Y.: Doubleday & Co., 1955.
- Goody, W. "Sensation and Volition." *Brain*, CXXII.
- Walshe, F. M. R. "On the Role of the Pyramidal System in Willed Movement." *Brain*, LXX, 1947.
- Hagbarth, K. E. and J. Fox. "Centrifugal Influences on Single Unit Activity in Spinal Sensory Paths." *Journal of Neurophysiology*, XXII:3 (May) 1959.
- Pribram, Karl, H. "A Nervous System for Psychologists: 1959 Model—Built from the Inside Out." Western Psychological Association convention lecture (April).
- Liba, Marie. "Setting Kinesthetic Goals for Projectile Skills." Madison, Wis.: University Dept. of Phys. Ed. for Women, 1949. (Mimeographed.)
- Glassow, Ruth B. "Implication for the Teaching of Skill." Madison, Wis.: Univ. Dept. of Phys. Ed. for Women, 1949. (Mimeographed.)



Charter members of the national occupational therapy honor society, Pi Theta Epsilon, are these Colorado State University students photographed during ceremonies to install the Beta chapter on campus. From left to right, they are Pat Williams, Mrs. Mary Ann Wadley Weisberg, Glenda Richards, Karen Carsten and Jean Holtz, president of the chapter, who has pen in hand.

NATIONALLY SPEAKING

NEW OFFICER

Treasurer-electMargaret Gleave, O.T.R.

From WFOT

The Council of the World Federation of Occupational Therapists had looked forward to the day when our Federation would be admitted to official relations with the World Health Organization, and we were honored and delighted to be deputed to be the first to represent WFOT when recognition was given this year. Even so it was not until we were actually participating in the proceedings of the twelfth assembly that we had any real understanding of the magnitude of the work of WHO or any real appreciation of the nature of the honor conferred upon occupational therapy by WFOT's recognition as a non-governmental organization in official relations with WHO after such a brief period in the field of international associations.

The World Health Organization was founded in 1946. It is a specialized agency set up under Article 57 of the United Nations charter. Its declaration of policy states that "the following principles are basic to the happiness, harmonious relations and security of all peoples:

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.

The health of all peoples is fundamental to the attainment of peace and security and is dependent upon the fullest cooperation of individuals and states.

The achievement of any state in the promotion and protection of health is of value to all.

Unequal development in different countries in the promotion of health and control of disease, especially communicable disease, is a common danger.

Healthy development of the child is of basic importance; the ability to live harmoniously in a changing total environment is essential to such development.

The extension to all peoples of the benefits of medical, psychological and related knowledge is essential to the fullest attainment of health.

Informed opinion and active cooperation on the part of the public are of the utmost importance in the improvement of the health of the people.

Governments have a responsibility for the health of their peoples which can be fulfilled only by the provision of adequate health and social measures.

With these principles in view the objective of WHO is simply stated in Article I of the constitution as being "the attainment by all peoples of the highest possible level of health." Article 2 defines the functions by means of which the achievement of this objective is to be pursued:

To act as the directing and coordinating authority on international health work;

To establish and maintain effective collaboration with the United Nations, specialized agencies, governmental

health administrations, professional groups and such other organizations as may be deemed appropriate;

To assist governments, upon request, in strengthening health services;

To furnish appropriate technical assistance and, in emergencies, necessary aid upon the request or acceptance of governments;

To provide, or assist in providing, upon the request of the United Nations, health services and facilities to special groups, such as the peoples of trust territories;

To establish and maintain such administrative and technical services as may be required, including epidemiological and statistical services;

To stimulate and advance work to eradicate epidemic, endemic and other diseases;

To promote, in cooperation with other specialized agencies where necessary, the improvement of nutrition, housing, sanitation, recreation, economic or working conditions and other aspects of environmental hygiene;

To promote cooperation among scientific and professional groups which contribute to the advancement of health;

To propose conventions, agreements and regulations, and make recommendations with respect to international health matters and to perform such duties as may be assigned thereby to the Organization and are consistent with its objective;

To promote maternal and child health and welfare and to foster the ability to live harmoniously in a changing total environment;

To foster activities in the field of mental health, especially those affecting the harmony of human relations;

To promote and conduct research in the field of health;

To promote improved standards of teaching and training in the health, medical and related professions;

To study and report on, in cooperation with other specialized agencies where necessary, administrative and social techniques affecting public health and medical care from preventive and curative points of view, including hospital services and social security;

To provide information, counsel and assistance in the field of health;

To assist in developing an informed public opinion among all peoples on matters of health;

To establish and revise as necessary international nomenclatures of diseases, of causes of death and of public practices;

To standardize diagnostic procedure as necessary;

To develop, establish and promote international standards with respect to food, biological, pharmaceutical and similar products.

Generally, to take all necessary action to attain the objective of the Organization.

In many countries there is a serious lack of trained personnel in all aspects of health work. The WHO is assisting in overcoming such shortages by a number of methods. In some cases it sends advisors who can act as national team leaders on the spot. If thought advisable it may assist by establishing a training program where this has been requested by the government concerned.

*Report of the affiliation of the World Federation of Occupational Therapists and the World Health Organization, and the twelfth assembly of the World Health Organization, Geneva, Switzerland, May 1959.

WHO also provides a certain number of fellowships for study abroad. It should be noted that in all such cases whether it be by the provision of expert advisors, by the provision of fellowships, or by establishing training schemes, WHO always acts on the request of governments and cannot accede to requests of individual citizens.

Despite the vast program which is being undertaken by WHO, this is only a small contribution to the enormous body of work which remains to be done. WHO is the only body of international standing working on an intergovernmental basis in the field of health. It seeks to fill in as far as possible some of the gaps in communication and coordination at the operational level and to seek out and survey outstanding and uninvestigated problems especially in the field of public health.

Members of WHO are under an obligation to keep the Organization fully informed regarding the progress of all matters affecting health within their territories. In this connection they must forward to WHO particulars of any relevant legislation, pertinent publications and health statistics.

The admission of the World Federation of Occupational Therapists to official relations with the World Health Organization is governed by Article 70 of the WHO constitution which reads as follows: "The Organization may, on matters within its competence, make suitable arrangements for consultation and cooperation with non-governmental international organizations and, with the consent of the government concerned, with national organizations, governmental or non-governmental."

The representatives of the World Federation of Occupational Therapists suggest for your consideration a number of points which, from their experience in attending the twelfth assembly, they regard as matters of primary importance. These observations are in considerable measure the outcome of conversations and discussions with other participants in the health assembly. It was noted with pride not unmixed with some anxiety that many people complimented us upon being admitted to official relations with WHO so early in our life as an international organization, and some expressed surprise that we had attained this status so soon. It was evident that not only are we a very young organization but also that we are a very small one. It is our opinion that having attained this distinction of early acceptance into official relations with WHO, we must merit the trust placed in us and must accept the responsibilities implicit in our new position in international affairs. This will mean that occupational therapists must learn an approach to world health problems which puts them in a different perspective from that in which our profession usually perceives them. They must familiarize themselves

with the work of WHO in the fields of malaria eradication, in the field of communicable diseases (including those which may not be a problem in the area in which they live but which are common in other parts of the world), they must concern themselves with developments in the fields of social and occupational health, in the health education of the public, with maternal and child health and nutrition as well as in the more familiar fields of mental health, medical research, medical statistics and rehabilitation. If it is asked why we should concern ourselves with these matters, there are a number of answers. If we are to hold our place in WHO we must merit it by our quality. The problems which the World Health Organization is presently tackling are some of the great health problems of mankind. We must understand the nature of these problems and how WHO is attempting to deal with them. When they have been brought under control the field of rehabilitation will enlarge beyond belief. We are certain that only if our profession is ready to accept the insignificance of the part that we can play at the present time in vast areas of the world, can, and shall, we equip our profession to meet the challenge that the future surely holds.

We regard it as essential that WFOT shall be prepared to send representatives to World Health Assemblies even though much of the agenda has little direct or immediate relevance to occupational therapy, and equally essential that these representatives shall be ready and informed so that they can approach discussion on such matters as health education of the public in terms which are as applicable to Poland as to France, to Ethiopia as to Brazil. This means learning basic principles, not local applications. If occupational therapists play their part now in supporting the general work of the World Health Organization then, as rehabilitation develops in the many lands where it either does not exist at present, or if it exists is only in its most embryonic forms, the World Federation of Occupational Therapists will be known and accepted throughout the world as a responsible international agency concerned primarily with the promotion of the health and well-being of mankind, and we may confidently expect that our advice will be sought on matters within our own competence, for we shall have proved our knowledge of the breadth of the problems confronting those who seek to improve health and we shall have demonstrated that we are disinterested in our approach to them.

Respectfully submitted,

Alice Constance Owens
Chief Representative

Dulcie Goode
First Alternate

From the Study of State Licensure

A very lively topic of discussion today among the members of professional groups who work under medical supervision is the question of state licensure. This subject has been brought before the Board of Management and the House of Delegates of AOTA on several occasions in recent years. In May, 1959, in Chicago, I had the enjoyable privilege of exchanging thoughts on this subject with representatives of eleven national, allied health organizations. The sponsoring group on this occasion was the joint committee to study paramedical areas in relation to medicine of the American Medical Association. (See AJOT, V, 2, pp. 60-63.)

Only one of these eleven groups favored state licensure in place of voluntary registration. The American Occupational Therapy Association feels that the registry established in 1932, admission to which is determined by successfully passing the national examination, provides at the present time, a satisfactory recognition of our professional standards. It may be that the time will come when we shall need some form of legal regulation so we are not closing our minds to a possible change of opinion in the future but voluntary registration appears to be judicious.

The basic reason behind our Association's support of voluntary registration versus state licensure is that all candidates for admission to our registry through our national examination are graduates of curricula approved by the advisory committee on occupational therapy education of the American Medical Association. Representatives serving on this committee are from the American Occupational Therapy Association and the various specialty boards of the American Medical Association whose members utilize the service and direct the treatment given by occupational therapists. Because these courses are established within institutions of higher learning there exists an additional safeguard in relation to the caliber of instruction provided for potential candidates for our established registry through the accrediting bodies of the National Educational Association.

The requirements for the course accreditation are sufficiently flexible to afford adjustment in subject matter to meet the changing treatment needs of the field as the practice of medicine advances and utilization of occupational therapy in the total treatment program changes. Should a licensure law defining specifics be once effected the adjustment of it to meet these changing needs of the field would not be a simple matter and

could be a most expensive proposition. Such a law would be subject to political pressures as has been experienced in the case of some civil service classifications commonly established by the states. The suggestion has been made that we retain our registry when a state licensure bill is formulated and that a prerequisite for certification for licensure would be that the candidate first meet the requirements of the professional registry. If this requirement were made a law, it would automatically be declared unconstitutional on the basis that it would be establishing a monopoly in the restraint of trade. If such a plan existed the value of our registry would be nullified.

Formulating such a law for each state is a very expensive procedure; continuing safeguards during subsequent legislative sessions would be essential in order to prevent pressure groups from effecting amendments which might lower standards or might be a deviation from the ideals of the profession. And lobbying by a professional group would endanger the qualifications for favorable tax exemptions which state associations now enjoy as non-profit organizations.

It is to our interest that we seek standards of certification to bring to our patients the best, and ever-improving treatment procedures. An argument set forth in favor of state licensure is that regulation by the state will protect patients from treatment under inadequately prepared individuals who are purported to be qualified therapists. The American Society of X-ray Technicians have deftly rebuked this reasoning by stating that "standardization and upgrading of the training methods, curricula and syllabi are more logically achieved when a prescribed national pattern can be maintained," and "possession of a license does not in any way guarantee or assure protection of patients. It will not do so because this is a moral obligation depending upon the integrity of the individual technician and can not be legislated."

Finally it may be said, state licensure deters professional mobility unless reciprocity is established among all states. One national standard formulated by an informed and alert national association with democratic representation on its governing bodies, can more effectively guard its professional standards. In conclusion, we leave with you this brief statement: voluntary registration permits a more valid determination of professional qualifications than would be accomplished through licensure.

Beatrice Wade, O.T.R.
First Vice-President, AOTA

AJOT XIV, 2, 1960

Queries and Answers

This page of questions and answers results from the desire of the clinical procedures committee to answer the questions of practicing therapists on matters pertaining to patient treatment. Any member of AOTA is encouraged to submit a query to the editor of this column, Miss Irene Hollis, O.T.R., field consultant in rehabilitation, American Occupational Therapy Association, 250 West 57th Street, New York 19, New York, or to Captain Lottie Blanton, AMSC, chairman, clinical procedures committee, Box 326, Letterman General Hospital, San Francisco, California. The editor and the committee invite letters containing supplementary information and letters expressing a difference of opinion. The goal of this column is to answer perplexing questions for the therapist in the field. The only way it can achieve this goal is to have therapists submit their questions. You are assured of a prompt, personal reply, and possibly your question and its answer will appear in the *Journal* to inform others who may have been confronted with a similar problem.

PERCEPTUAL HANDICAPS

Question: May we have detailed suggestions on successful treatment techniques for brain-injured children with perceptual handicaps? Shirley Huss and Nancy Rachal, Shreveport, Louisiana.

Answer: It is, perhaps, indicative of the stage of growth of our profession that a question of this type appears. As a profession, we are beginning to realize the extent of perceptual handicaps among brain-damaged individuals and our particular responsibility toward treating the disability. Were this a question which had the type of answer being sought, it might never have been asked, for the answer would be found easily in our literature. Our literature, however, does not hold "detailed suggestions on successful treatment techniques." Our techniques have not advanced in this area to the point where we can say definitely what procedures are successful. We have, in fact, not even completely described the nature of perceptual problems. Until we do that we cannot formulate accurately the theoretical structure on which treatment procedures can be based, then tested for effectiveness. This state of affairs points out that we need more professional knowledge than can be acquired in a course of study leading to a bachelor's degree. Graduate study is necessary for adequate preparation to meet the demands being made upon our profession.

It would be very satisfying to have the knowledge which would enable one to answer this question in this column — or even in a book — but at this point and under these circumstances it seems best to point out publications which come as close as possible to answering the question. After all,

patients must be treated today with the knowledge at hand. The best procedure for a therapist to follow when faced with a treatment problem is to try first to understand the problem through careful observation of patients and study of the literature which is available and then to apply logical training procedures. The field of special education has developed techniques which have been accepted and used by many. The principles involved in the techniques can be adapted for the more general training occupational therapists usually give to patients.

The following references will be found helpful in increasing understanding and offering specific techniques.

Strauss, A. A., and Lehtinen, L. E., *Psychopathology and Education of the Brain Injured Child*, Vol. 1 and 2. New York: Grune and Stratton, 1947.

The following issues of *AJOT* contain pertinent articles: Jan.-Feb. 1954, p. 3*, p. 8*; Mar.-Apr. 1954, p. 48*; Nov.-Dec. 1956, p. 293*; May-June 1958, p. 130; Mar.-Apr. 1959, p. 83.

—A. Jean Ayres, O.T.R.
Los Angeles

PRE-VOCATIONAL INFORMATION

Question: In a tuberculosis hospital in which OT contributes observations and evaluations for pre-vocational purposes and use in rehabilitation conferences, should the patient in a non-functional clinic be informed that he is being observed in this way? Clinical Procedures Committee.

Answer: In most cases, it is felt that the patient should be so informed, preferably working this out in advance with the vocational counselor. However, there will be instances in which this would not be wise: i.e., patient has been referred to OT specifically for evaluation because the vocational counselor feels a formal testing situation causes so much anxiety that the patient is unable to respond adequately.

—Miriam Scanlan, O.T.R.
Denver

CARDIAC PATIENTS

Question: Is a group ward program advisable for pre-operative patients who are not on bed rest? Clinical Procedures Committee.

Answer: While the social aspects of group activity are of value in any hospital situation, individual therapy would seem to meet more of the emotional needs of this diagnostic group (closure interatrial septum defect, mitral commissurotomy, excision of coarctation of aorta, division of ductus arteriosus). We have found patients with cardiac conditions awaiting surgery (or hospitalized for evaluation of surgery) are, in general, a dependent

*Reprints available from AOTA.

group — apprehensive about their medical condition and prognosis, demanding of attention, and in need of a great amount of reassurance and support. We feel the therapist can best meet these needs on an individual basis.

—Miriam Scanlan, O.T.R.
Denver

NATIONAL FOUNDATION SCHOLARSHIPS*

A new national scholarship program in five of the key health fields has been undertaken as a part of the expanding program of the National Foundation. These health scholarships are four-year college scholarships which pay \$500 a year, or a total of \$2,000. Each is to help a student prepare for a career as a nurse, an occupational therapist, a physical therapist, a medical social worker or a doctor. More than 500 health scholarships will be offered annually for a period of ten years. In your particular profession of occupational therapy we will offer more than 100 scholarships a year.

This is the largest scholarship program the National Foundation has ever undertaken. It is, I believe, the largest ever undertaken by any voluntary health agency. But its size is not all that is new. The health scholarship program requires the volunteers of the National Foundation to recruit for the health professions. For the first time we are asking our chapter people to go into the schools of the nation, to alert young Americans to the opportunities open to them in the health professions and, through health scholarships, to offer aid to some of them through the years of education required.

In the past the major burden of recruitment has been borne by the health professionals themselves. I have often wondered if your fellow citizens realize the debt of gratitude they owe to the members of national professional associations. But despite the energy and effort of these associations, the average citizen still remains deaf to the danger he is courting by lethargically ignoring the rising statistics on the manpower shortages throughout the health fields.

One of the objectives of the health scholarship program is to make many more Americans aware of what these shortages mean to their daily lives. This is precisely why we have asked the thousands who volunteer their help to the National Foundation to recruit.

In August we announced the first 403 winners of health scholarships. Of these, 102 were scholarships in medicine, 101 in nursing, 83 in physical therapy, 68 in occupational therapy, and 49 in medical social work.

The number of awards made, however, do not accurately reflect the response of America's youth

to this scholarship program. Actually, over 4,700 applications poured in for the 515 scholarships offered. Unfortunately over three-fourths of the applications received were for the fields of medicine and nursing. In physical therapy there were over 500 applicants; but in occupational therapy less than 300, and in medical social work just over 200.

Since these scholarships are awarded state by state, with each field of study receiving an equal number, many well-deserving applicants, especially in medicine and nursing, had to be turned down. On the other hand, in some states because of lack of applicants we were not able to award all of the authorized scholarships. In several states not a single student applied in the fields of occupational therapy and medical social work.

It saddens us, just as I'm sure it does many of you, when a scholarship goes to waste. But remember that one objective of this program is to focus attention on the neglected, little-known health professions. Next year and in the years to come we hope to have more than enough applicants for all five fields.

The fact that organizations such as the American Occupational Therapy Association have state organizations carrying on recruitment programs made the difference in returns in state after state. Actually, without these state organizations one of the most successful innovations in this scholarship program could not have been considered. Winners of health scholarships are chosen by state selection committees. These committees are composed of one member of each of the five professions included in the program.

The four criteria on which the selection of winners is based are: academic record, personal qualifications, financial need and professional promise. Obviously, to judge professional promise we must rely on experts.

To select these "experts" we turned to the professional associations for help. We asked each to name three of their members in each state as possible judges of the applications for health scholarships. With the cooperation of these judges, every state picked its own winners; and we feel sure that the winners were picked by the most objective, best qualified committee we could have chosen.

One of the most significant facts that this year's experience has uncovered is the meager knowledge the general public has of the work of occupational therapists, medical social workers and physical therapists. Medicine and nursing are, of course, old and well-known professions. But what a physical therapist, a medical social worker or an occupational therapist is, or what he or she does, is

*Abstract of an address to the House of Delegates at their annual meeting, October 23, 1959.

still something of a mystery to a large number of teenagers and parents, teachers and guidance counselors. I'm sure this does not come as news to many of you. But building an image of these professions in the public's mind is one of our toughest jobs and one of our most immediate objectives.

For your information — and to give you fair warning — I would like to read to you several sentences included in a memo sent to all of our chapters:

"The health professionals in your community have a great advantage over their fellow citizens in discussing the health scholarship program. They know what you are talking about when you try to interest young people in health careers and they know from personal experience the satisfaction that comes from following these careers. Ask them for help. They are just as interested in helping these students as you are."

As you can see, we have already taken the liberty of telling our chapter people that they should seek out the health professionals in their community. In the future, our 3,100 chapters will be turning increasingly to the members of your profession for help in translating this and other scholarship programs into meaningful terms for others.

I say other scholarship programs because we are fully aware that even though the health scholarship program is the most ambitious program yet undertaken, 500 scholarships a year will not meet shortages now estimated in the tens of thousands. What this program can do, however, is to help focus the attention of the nation on the fact that money alone does not conquer disease.

I doubt that many usually sensible people fully understood the meaning of the recent report from the National Institutes of Health from which I would like to quote just one sentence: "For the first time in the history of medical research, either in this country or abroad, the limitation on progress is due more to manpower and facilities than to monies available for the support of research."

On the whole, America has failed to recognize that three things are needed — brains, money and the training that will put these to work — if medical science is to keep up its present pace. America has the brains. It has the money. But it has failed to invest enough of its money in its brains. And the result is that the fast-moving world of medicine has got ahead of us.

I used the phrase "on the whole" because I think that in recognizing the need for trained experts and in helping to train those experts the National Foundation has been unusually alert. I do not attribute this to great foresight but to the

single fact that when the National Foundation set out to fight polio the work force we needed did not exist.

Fortunately for the nation, the National Foundation has since poured \$32 million into increasing the pool of professionally trained personnel. It has given over 8,000 young men and women educational opportunities, through scholarships and fellowships, for careers in the health fields. In occupational therapy it has invested over \$534,000.

It should be recognized that when I talk of what the National Foundation has done I am really talking about what the American people, through their March of Dimes, have done. Keeping America healthy is a big and costly job. It is a job that requires the nation's best professional brains backed by the concerted support of the entire public. The independent health agencies have been helping to do this and, on the whole, I think they have done a good job. They can only continue to do so with the understanding and support of professional people like yourselves and all the American people.

—Catherine Worthingham,
Ph.D.
*Director of Professional
Education
The National Foundation*

Music Therapy . . .

(Continued from page 63)

problems that would interfere with music performance can be overcome. Designing and making adaptations enables a patient to perform on a musical instrument so that the physical handicap is less of a problem. Also when a severely involved person learns how to sing, he gains much personal satisfaction from his accomplishment besides having improved physically.

The use of music as therapy is still a relatively unexplored field, and there is no end to its possibilities once the aim and objectives for the various disability areas have been carefully planned.

BIBLIOGRAPHY

1. Gardner, Harry J. "Music as an Adjunct to Differential Relaxation for Speech in Cerebral Palsy." *Music Therapy*, 1955, pp. 184-185.
2. Briedenthal, Mynatt. From unpublished class notes in course in music therapy given at the University of Southern California, 1956.
3. Schneider, Erwin H., Ph.D. "New Concepts in the Uses of Music with Cerebral Palsied Children." *Music Therapy*, 1956, p 163.
4. "Music as a Healing Agent." *International Musician*, September, 1957.

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**ANNUAL MEETING
BOARD OF MANAGEMENT
AMERICAN OCCUPATIONAL THERAPY
ASSOCIATION**

Morrison Hotel, Chicago, Illinois
October 18 and 22, 1959

Sunday, October 18, 9:00 A.M.-10:00 P.M.

Members Present

Marguerite Abbott, O.T.R.
Mary Britton, O.T.R.
Jeannine Dennis, O.T.R.
Dwyer Dundon, O.T.R.
Gail S. Fidler, O.T.R.
Marie Louise Franciscus, O.T.R.
Ethel Huebner, O.T.R.
Lt. Col. Myra McDaniel, AMSC
Martha Matthews, O.T.R.
Elizabeth Messick, O.T.R.
Irene G. Robertson, O.T.R.
June Sokolov, O.T.R.
Florence Stattel, O.T.R.
Caroline Thompson, O.T.R.
Beatrice Wade, O.T.R.
Wilma West, O.T.R.
Jacquelin Wright, O.T.R.
Ex Officio
Marjorie Fish, O.T.R.
Col. Ruth A. Robinson, AMSC

Members Absent

Ruth Brunyate, O.T.R.
Satoru Izutsu, O.T.R. (proxy: Miss Sokolov)
Laurel Nelson (resigned)
Mary Reilly (proxy: Miss Messick)
Leila Thompson (resigned)
William R. Dunton, M.D., (honorary member)

Auditors

Irene Hollis, O.T.R.
Virginia Kilburn, O.T.R.
Helen Mathias, O.T.R.
Lucie S. Murphy, O.T.R.
Mildred Schwagmeyer, O.T.R.
Angeline Howard, O.T.R.
Donna Harper, O.T.R.
Eileen O'Hearn, O.T.R.
Mary Van Gorden, O.T.R.

Presiding: Miss Helen B. Willard, President

The following action was taken by the Board of Management at the suggestion of the president: *It was voted* that the three new delegate Board members be invited to audit as orientation to Board business prior to their official seating at the second meeting; that the chairman of the council on education be invited to audit. This is to be established as regular procedure.

It was voted to accept the minutes of the previous meeting of the Board of Management in Indianapolis, April, 1959, as corrected.

EXECUTIVE REPORTS

Executive committee: Helen Willard, O.T.R. Recommendations based on detailed consideration by the executive committee of various items relating to finance and personnel were presented and resulted in the following Board actions:

1. *It was voted* that an increase of \$5,000 be made in the allocation of funds from general to education budgets to avoid the necessity of using reserve funds to make up the annual deficit in this account.

2. *It was voted* that \$2,000 be appropriated for use of the permanent conference chairman for 1960.

3. *It was voted* that the national office personnel policies subcommittee be requested to structure the potential position of a permanent conference coordinator, as an employee of the Association.

4. *It was voted* to establish a financial advisory committee, including O.T.R.'s, business, financial and investment personnel, to study a long-range investment program for the Association.

5. *It was voted* that the recommendations of the national office personnel policies subcommittee as set forth in their report be officially adopted:

a. Revision of salary and increment schedules, effective January, 1960.

b. Personnel policies for grant personnel, parallel to those for regular staff.

6. *It was voted* that annual leave for professional staff be four weeks with compensatory time granted at the discretion of the executive director.

Treasurer: Wilma West, O.T.R. The increase in dues has produced approximately \$41,000 in additional income, but this has been largely offset by increased expenditures required to meet still rising costs and provide additional membership services.

In addition to the general fund, the assets of the Association's six special funds were noted as representing finances devoted to the promotion of occupational therapy, apart from the monies required for actual operation.

Board discussion was devoted to provision for the additional funds required by the impending withdrawal of support by the National Foundation for the recruitment and publicity division program; the increased grant to the educational division; staff salary increases.

It was voted to accept the report of the treasurer with appreciation.

Term of treasurer. In view of the fact that a treasurer-elect was not elected in 1958, as stipulated in the Constitution, and that the present treasurer will not run for re-election, the following Board action was taken:

It was voted that the membership be apprised of this situation at the 1959 business meeting, and the following suggested procedure presented for their approval: that we ask the assembled membership for legalization by voting to suspend the Constitution ruling for one year, and to elect Miss West as treasurer for the coming year with the understanding that the nominating committee will follow the regular nominating procedure of asking the states to nominate persons for a dual slate, and voted upon by mail ballot at an early date, preferably in January. The new treasurer-elect would assume the treasurership at the 1960 annual meeting.

Speaker, House of Delegates: Ethel Huebner, O.T.R. There were 37 of the 39 state delegates present at the House of Delegates meeting, with Arkansas and Georgia not represented.

Old Business. 1. Treatment fees for occupational therapists: The House of Delegates made the following recommendations: (1) That the report be sent to the 486 hospital administrators who answered the questionnaire; (2) That the report be filed in the AOTA office with information in the Newsletter as to its availability; (3) That the report should be elaborated, published as a flyer, and sent with the Newsletter, with copies to hospital administrators. The report is not yet complete in its present form.

The Board voted that a letter be sent at this time to the cooperating hospital administrators indicating a report will be forthcoming.

2. Budget committee made the following recommendations: (1) That the House of Delegates accept with

thanks the \$2500 allocated to it; (2) That the House of Delegates continue with compilation of expense figures; (3) That the national office keep a record of House of Delegates expenses for the coming year so that the House will have a total concept of its cost of operation.

3. Group insurance: study to continue.

4. Relocation of national office: poll of associations produced no new material. The House of Delegates voted that membership opinion be ascertained by delegates from the local associations, with a reporting deadline of February 1, 1960, for transmission to the speaker.

5. Revision of House Organs: It was voted that a committee from the House of Delegates be appointed to study the problem of new membership classifications with particular reference to certified occupational therapy assistants, and the established policy re ratio of active and non-active state association members.

New Business. The House of Delegates voted:

1. That the vice-speaker revise the outline guide for annual reports of state associations toward a more specific compilation. Board recommended that these reports continue to be sent to the AOTA office.

2. That consideration of possible mergers with closely allied groups be postponed inasmuch as there is already a group for this purpose (interdisciplinary study group).

The Board of Management was requested to consider providing full financial assistance to recipients of the Eleanor Clarke Slagle lectureship at the annual conference. It was further recommended that an honorarium be considered for the awardee.

It was voted that the recipient of the Eleanor Clarke Slagle lectureship be offered travel expenses and appropriate per diem expenses.

It was voted that no honorarium be offered to the recipient of the Eleanor Clarke Slagle lectureship.

Result of House of Delegates elections:

Vice-speaker, re-elected: Clyde Butz, O.T.R. Secretary: Elizabeth E. Holdeman, O.T.R. Nominating committee chairman: Wilma Franz, O.T.R. Delegate Board members: Mary Van Gorden, O.T.R., Donna Harper, O.T.R., Eileen O'Hearn, O.T.R.

Executive director: Marjorie Fish, O.T.R. Comprehensive statistical data on national office operation was presented in the current "Facts and Figures" sheets.

The status of current grants was reviewed, and recommendations made that prompt consideration of newly projected grants be undertaken, based on the schedule of the development advisory committee.

Board consideration was requested re the ever-increasing number of related meetings and determination of the coverage to be undertaken.

Associate director: Helen Mathias, O.T.R. It was reported that Yearbook advertising represented an increase of \$865 over the preceding year. The Association's advertising representative requested discretionary powers in free distribution of the Yearbook to advertisers who take less than half-page space, in those instances where this practice would result in increased advertising for both the Yearbook and AJOT.

It was voted to accept the recommendation.

Reports of the executive director and associate director accepted with appreciation and realization that these represent a great deal of work in the national office during the year.

Council on education: Angeline Howard, O.T.R. Two items were presented for Board consideration:

1. The council voted to recommend to the Board financing the expenses of two OT's on the AMA/AOTA

schools survey team (one would be the director of education, with travel already budgeted).

It was voted that funds be provided to finance a second therapist on the schools survey team, in addition to the director of education.

2. The graduate study committee recommended that application be made to the office of Vocational Rehabilitation for a traineeship grant for graduate study beyond the master's degree level.

It was voted that this matter be referred to the executive committee, for consultation with the national office.

Report accepted with appreciation.

ASSOCIATION ISSUES

Constitution revision: Elizabeth Withers, O.T.R., for Ruth Zieke, O.T.R., Chairman. The report of the constitution revision committee was focused on revision of membership classifications, primarily into three categories: (1) Active or registered. (2) Auxiliary. (3) Honorary. Specifications were outlined for designations in each category. The House of Delegates made no formal recommendation on the proposed revision but indicated that approximately half of the state associations were in favor of the proposed simplification. Other associations favored the principle but felt that additional classes were desirable.

The Board of Management agreed with the House of Delegates that certain dangers were inherent in bulking members into large categories, with particular reference to sustaining members and students, who might lose interest as they lost identity in this reclassification. The House of Delegates already has a committee studying this matter.

Procedural steps and effective methods of correlating House and Board effort were discussed.

It was voted that the committee from the House of Delegates continue to study the report and report back to the Board, and that the Board postpone further action pending clarification or specific changes the Constitution will require, at which time the constitution revision committee would be reactivated.

Structure and function of AOTA: Wilma West, O.T.R. This committee, assigned to study structure and function, resulted from recommendations at the 1959 joint House/Board midyear meeting. It is an expansion of the development advisory committee and comprises ten members working in three sub-groups. Their areas of study are: House and state associations; Association committees; AOTA national office. The committee felt that further study and definition of the purposes or professional organizations in general and AOTA in particular was imperative prior to formulation of recommendations for changes in either the structure or function of the Association and that further research at the local level, utilizing all available materials, was indicated.

Board opinion was requested relative to broadening the committee's charges to include a study of the Board of Management, executive committee, and officers. Discussion favored the above additional studies, noting involvement of the problems of lack of communication, better proportional representation of the Board and House, individual participation, and methods of offering greater service to the membership. No time limit was assigned to the study, although voiced opinions indicated that a minimum of 2 to 3 years would be required.

The report was accepted with appreciation and an expression of interest in further developments.

Functions and procedures of the Board: Recommendations by Board members. The executive director reviewed the procedure and history of Board recom-

mendations requested from Board members, in an effort to utilize Board time more effectively both in conduct and content. The suggestions received from six members were compiled and circulated in advance. The agenda of the current meeting incorporated some of the suggestions. Methods of implementation and interpretation were discussed.

It was recommended that the material be referred to the structure and function committee.

Nominating procedures: Mary Van Gorden, O.T.R. After discharge of its regular assignment, the 1959 nominating committee recommended, in its advance report to the Board, areas for reevaluation and improvement. Additional recommendations were submitted to the Board at this meeting: (1) Members should be made more aware of the privilege of the franchise. (2) Face-to-face meetings of nominating committee members. (3) Improved operational timing. (4) Standards of qualifications for selection of candidates. (5) Methods of familiarizing membership with the candidates on the slate. (6) Thorough reevaluation of the SOP. (7) Equitable distribution of committee responsibility.

Board discussion touched on the involvement in this matter of the development advisory and constitution committees. It was noted that Recommendations 3,6,7, in the advance report could be implemented in the national office without difficulty. The publication of biographical sketches of the candidates in AJOT would be one method of familiarizing the membership with these people. The proposed revision of the SOP was discussed, and opinion expressed that since the 1959 committee will be reconstituted to elect a treasurer, they give further study to revision. The present chairman offered to assist on this. The study would then be referred to the development advisory committee (structure and function), and the constitution committee.

Appreciation was expressed to the committee for their able handling of a difficult assignment.

Relationship with physical medicine: Beatrice Wade, O.T.R. Reference was made to the AOTA statement of policy (1949) regarding the relationship of this Association with physical medicine. This was brought to the attention of the Board for review of current status, because of recent inquiries. The relationship is the same as with any other branch of medicine, i.e., working with the patient under the direct supervision of his physician.

Reference was made to the feeling in the medical field that rehabilitation should not, per se, be designated as a specialty. Varying degrees of acceptance of OT and the therapist's responsibility to administrators in different specialties, were cited. It was strongly felt that it is the on-going responsibility of the individual therapist to interpret the functions of OT to the doctors with whom he has frequent contact.

Qualifications of psychiatric consultant: Gail S. Fidler, O.T.R. The current OVR consultancy grant provides for a two-year consultancy in the area of psychiatry beginning January, 1961. The Board of Management recommended at the midyear that an appointed committee draw up a job description which could serve as a guide for preparing grant materials and qualifications for appropriate personnel. This report was distributed in advance to the Board. Discussion centered on potential sequence of activities which would best orient the consultant to the requirements of the position, modification of present outline for initial orientation use, and methods for securing the appropriate person to fill the position.

It was voted to make immediate announcement of

this position in the Newsletter using an appropriate abstract of the job description given.

Report accepted with appreciation.

OTHER BUSINESS

Report of WFOT Delegate: Marie Louise Franciscus, O.T.R. Board action was requested on the following matters:

1. AOTA has been asked to submit agenda items for the WFOT Council meeting in September, 1960. The delegate suggested establishment of uniform policy for all countries on determination of the membership year for individual members joining the Federation at times other than the regular billing date (April). It was recommended that persons applying before June 1 be counted as members within the fiscal year; applications after June 1 be counted as members for the coming year.

It was voted to present the above procedure for WFOT Council consideration. The Board had no further Council agenda items to suggest.

2. AOTA has been asked to submit names of leaders in medicine, rehabilitation and other fields who could be elected to serve as advisory fellows: The United States is already represented by three fellows out of a total of five.

It was the consensus that no further recommendations of fellows be made at this time.

Report on 1962 WFOT congress: Clare Spackman, O.T.R., Marie Louise Franciscus, O.T.R. Three recommendations were presented for Board approval: (1) That the AOTA combine its annual conference in 1962 with the third WFOT congress, eliminating its own conference program and limiting itself to business sessions only. (2) That the annual conference be shortened to three days, and no committee business transacted during that time. (3) That Canada be invited to join us, although AOTA would be the host. Operation would be similar to that of other conferences, but there would be allocation to AOTA and WFOT of different categories of fees. Financing would be through WFOT with assistance from AOTA. Financial involvement of AOTA is expected to be minimal because of exhibitors' fees, possible grant for conduct of an international congress from the Office of Vocational Rehabilitation, and contributions from state associations (some already received.)

It was voted that AOTA act as host for the third WFOT congress, and that Canada be invited to hold its business meetings concurrently with those of AOTA.

Appointment of AOTA fellows: Marjorie Fish, O.T.R. Board decision was requested regarding the policy of continuing the plan of appointing AOTA fellows-at-large. The original reasons for appointing them were reviewed.

It was voted to discontinue the appointment of fellows, and permit the policy to lapse at the expiration of present terms, in view of the fact that the Association has outgrown the need for this kind of professional status since the establishment of the medical advisory council.

AMA committee on paramedical areas in relation to medicine: Beatrice Wade, O.T.R. The meeting of the AMA committee on paramedical areas in relation to medicine was held in Chicago on May 16, the purpose of the conference being to discuss areas of mutual concern and to explore means of closer liaison among those participating in the care of the patient.

Of special interest was the question which came up in December, 1958, at the meeting of the AMA House of Delegates, regarding the licensure of paramedical groups. All groups were opposed to this ex-

cept the physical therapists. It was felt at the AMA meeting that it was desirable for individual groups to establish their own standards of practice and have voluntary recognition of their own members. The predominant feeling at this meeting was that AOTA had solved the problem by maintaining its own registry; this was pointed out as the ideal way to meet the need.

Thursday, October 22, 7:00 P.M.-12:00 midnight

Presiding: Helen S. Willard, O.T.R., president

Roll Call: As on October 18th, with following exceptions: Newly elected Board members present were Genevieve Anderson, O.T.R., Barbara Jewett, O.T.R.; absent, Shirley Bowing, O.T.R. Present for second meeting of Board, Ruth Brunyate, O.T.R. Auditors as on October 18th.

It was voted to invite the next person on the 1959 slate of candidates to fill the one-year vacancy on the Board caused by Mr. Nelson's resignation.

Major Elizabeth Nachod, as such, was invited to join the members present.

Conference greetings from Dr. William Dunton, Mr. Satoru Izutsu, and Mrs. Winifred Kahmann were read.

STAFF REPORTS

Editor of AJOT: Lucie Spence Murphy, O.T.R. Although no official Board action was necessary, the editor requested consideration of the recommendation that a paid-in-full membership for the following year be offered to new members joining after July 1, which would give them entitled privileges for the balance of the year, but not back issues of the Journal. She requested that this go to the membership secretary, and that a report be available for presentation at the midyear meeting.

Because of the WFOT meeting in 1962, there will be no conference issue that year.

Some conference papers are individually requested before publication. The editor desired statement of policy for releasing these without permission of the author.

It was voted to observe routine journalistic practice of withholding papers until date of publication.

Field consultant in rehabilitation: Irene Hollis, O.T.R.

Reference was made to three reports submitted by the field consultant: (1) Interim report to the Office of Vocational Rehabilitation; (2) Supplementary report covering the last three months of the consultancy to date; (3) Agenda and report of the meeting of the newly established advisory committee to the field consultant in rehabilitation.

Board opinion was requested relative to the following recommendations of the advisory committee.

(1) The field consultant should include a selected group of centers for visitation during the final year, not basing the choice entirely on requests.

It was noted that some centers with outstanding programs should be visited in order to furnish a base line. Out of 159 centers visited thus far, only 19 were not visited as a direct result of a request, thus an 8 to 1 ratio exists of requested consultancy over those not specifically requesting a visit. In that the advisory committee has attempted to narrow the broad base of operations of the field consultant, it was felt a certain amount of liberty would be advisable.

It was the consensus of the Board that Recommendation 1 be accepted.

(2) A comprehensive report should be prepared on each visitation.

The Board accepted the recommendation, and indicated that this is considered automatic.

(3) There should be a careful tabulation of information in order to establish trends, problems and strength

of occupational therapy as it is practiced in the field of rehabilitation of the physically disabled.

(4) A definitive analysis should be made of the tabulated information, and resulting data should be referred to appropriate bodies for incorporation into existing records, and for follow-up.

The Board indicated that such tabulations were being handled comprehensively in connection with the curriculum study. Although the terms of the grant call for a report, there is no need for a detailed scientific study, and the greater proportion of the field consultant's time should be spent more profitably in the field.

Further recommendations, relating to certain division of time and limitations of present duties, were made by the advisory committee to enable the field consultant to proceed more effectively according to the prime objectives:

1. Not more than 50% of the time be spent in the field. Consensus of the Board did not wholly agree with this percentage of time, as indicated under Recommendation 4 above.

2. All consultative services cease as of Sept. 1, 1960 (grant terminates December 31).

Board decision withheld pending clarification on the type of report to be rendered.

3. The remainder of the year be devoted to the final recording, tabulation, analysis and report of the findings.

Board decision withheld pending clarification on the type of report to be rendered.

4. The consultant be relieved of all office procedures and extracurricular activities not directly concerned with or related to the job at hand.

Recommendation approved by Board.

5. The services of the educational consultant be obtained to aid in the construction of the forms to be used in tabulating data.

Recommendation not approved by Board.

6. Several selected therapists be brought to the national office for a period of not less than three days to participate in the definitive evaluation of the data.

Recommendation not approved by Board.

7. Appropriate recommendations be formulated for follow-up and effective utilization of the compiled information.

Recommendation approved by Board.

The advisory committee will help to outline a follow-up questionnaire to all institutions where consultancy has been given which will elicit some specific information and answers for the consultant. Board suggestions were requested.

The consultant pointed out need for further consideration of: (1) Role of OT's in nursing homes—delineation is needed as there is considerable over-lap with group workers. (2) Role of OT's in public school system and private practice (See Minutes, 1959 midyear meeting).

Director of public information: Miss Julia Hardy. The recruitment and publicity committee voted a recommendation to the House of Delegates through the Board: (1) That the state associations amend their by-laws to make the position of recruitment chairman an elective office for two years. (2) That the title of the office be changed to "public relations coordinator" (recruitment and publicity). It was held this would lend importance to the status of recruitment within the associations, and help to handle the serious lack of personnel to deal with the program.

A recommendation was presented by the national recruitment chairman that the four regional recruitment

chairmen be designated as co-chairmen of the AOTA recruitment and publicity committee. The director of public information suggested the retention of their regional identity in connection with any title change.

There was Board consensus that change of office to an elective one, with the proposed new title, be referred to the House of Delegates. The other suggestions were deemed an administrative matter which did not require Board action.

Director of education: Virginia Kilburn, O.T.R. Word has been received that the Boston School of Occupational Therapy is now in the process of merging with Tufts University.

Attention was directed to certification of OT assistants which is becoming an increasingly heavy part of the education office activities.

Rena Worthington, O.T.R., director of OT at Texas Woman's University, wished the Board advised that the proposed master's degree program was submitted to the Texas Board of Higher Education and was turned down. They hope to re-submit it in 1960.

Curriculum Study: Marguerite Abbott, O.T.R. No Board action required.

COMMITTEE REPORTS

Permanent conference: Catherine Hoffman, O.T.R., (for Mrs. W. Kahmann.) In addition to registration and exhibit statistics of the current conference, the committee's recommendations re future operations were presented: the problems of finance, reevaluation of the SOP and clerical assistance, were all related to the need to study the task of various conference committees in order to coordinate the work to be done. Reports will be requested from the 1959 local conference committee chairmen by November 16, for return of materials to the national office.

The meeting to re-align structure of conference planning and conduct will be scheduled in the national headquarters in the near future.

Two invitations have been received for future conferences from Florida and Colorado. It was agreed to postpone decision on the 1964 conference until the 1960 midyear meeting.

Report accepted with thanks.

Special projects fund: Elizabeth Collins, O.T.R. The following recommendations were presented: (1) The Board authorize transferring between \$2000 and \$5000 from reserve funds to the special project fund. (2) Expenditure of funds be authorized for the printing of appropriate acknowledgements for donors who have contributed to the fund. (3) The committee be authorized to select one or two projects of short duration for implementation in the near future, in order to stimulate interest in the fund. (4) An investment advisory committee be established to determine the most effective means of utilizing funds to deal with inflationary periods; and an investment policy be outlined to insure long-term stability.

Board discussion noted that the original intent of the special projects fund was to encourage people to contribute large amounts in order to reach the goal of a sizeable principal (\$200,000), and to use the interest from this for special projects. The present "hybrid" nature of the fund creates difficulty in raising funds, without clearer delineation of function—i.e., an endowment fund or fund for projects. A change of committee name and clearer definition of the committee charge is seen as essential.

The committee felt that if the original intent of inducing large contributions was not feasible, smaller contributions should be sought. To this end small projects should be carried out as specific demonstrable

reasons for soliciting funds. Committee suggestions for appropriate short-term projects were: (1) National OT research laboratory. (2) Printing of materials (picture pages from AJOT in loose-leaf form) these to be available for sale, and future pictures added periodically. (3) Implementation of special studies committee findings. (4) Publication of research papers. The point was stressed that people will give for specific purposes more readily than for unrestricted funds.

It was suggested that all funds for endowment be put in one fund, and a certain percentage of that be used for special projects. The committee could then function to collect funds to be turned over to a joint endowment fund, but with authority to accept funds for specific projects desired.

The Board further recommended that: (1) Memorial giving be considered as a possibility. (2) Consideration of having a representative from the special projects fund committee work with the financial advisory committee. (3) The chairman send a statement, based on Board discussion, to go to each state representative and confer with the local committee for possible further recommendations. (4) Contributions to the fund be publicized in the Newsletter. (5) Pending further discussion at the midyear meeting, the committee devote some of its time to the preparation of a card form and fact sheet. (6) Other agencies, such as the YWCA, be consulted as to how they raise funds.

It was voted to appropriate \$2,000 from the reserve fund for the special projects fund committee, the interest on this amount to be available for committee use.

It was voted that further action by the Board in terms of delineation of funds or function of this committee be held in abeyance until the midyear meeting. In the meantime definition of the committee's function and methodology, based on above discussion, is to be given further study by the committee and presented to the Board at the midyear.

It was further recommended that consideration be given to changing the name of the committee.

Report accepted with appreciation.

Special studies committee: Patricia Holser, O.T.R., and Margaret Orchard, O.T.R., reporting for Julie Werner, O.T.R., Chairman. The committee requested Board consideration of financial support for printing the current 1959 survey of studies (98). The survey (22 pages), is needed for distribution to state chairmen, one copy each to schools of OT, and some quantity for distribution and sale from the national office. The 1960 questionnaire will be issued in the immediate future. It is desired that the survey be kept up-to-date.

It was noted by the executive director that the publications revolving fund was available, and publication could be handled from the national office, with suggestions from the committee re format and finished publication.

It was voted that the survey of studies be accepted for publication.

Report accepted with thanks.

Committee on recognition of occupational therapy assistants: Marion Crampton, O.T.R. Three committee recommendations were presented for Board action:

1. It was recommended (by Texas and Illinois) that the requirement be changed which specified that training programs be conducted only in hospitals approved by the Joint Commission on Hospital Accreditation. As an alternative, the committee recommended the provisions that hospitals acceptable for training be staffed by qualified personnel and be engaged in other educational activities. Because of the variance in types of

hospital teaching personnel available, the Board felt that alternate wording should be stated more specifically.

It was voted that hospitals, to be acceptable for this training, should be staffed with properly accredited psychiatrists and properly accredited personnel in allied disciplines. It is further highly desirable that there be an educational program in at least one other discipline.

2. It was recommended that the Senior Centers of Metropolitan Chicago be encouraged to proceed with their proposed program in nursing homes.

The committee had received a request for AOTA approval of the centers program in conjunction with a proposed grant request which the Senior Centers were seeking. Problems in giving such approval were noted: (a) No standards as yet established for other than the psychiatric area. (b) There are certain implications involved even in encouragement. (c) Ramifications of moving into specialty accreditation with no follow-up control.

It was voted that the committee be authorized to encourage the Senior Centers of Metropolitan Chicago to proceed with their proposed program. No approval can be given until AOTA establishes standards and the program is reviewed in the light of such standards.

3. It was recommended that the Board establish policy of encouraging centers to proceed with plans drawn up for other areas, if these plans approximate the requirements for psychiatry. The Board felt that, although the safeguard of standards was essential, it was possible to protect standards without placing barriers in the path of initiative.

It was voted to accept this recommendation.

Report accepted with thanks.

Recognitions committee: Florence Stattel, O.T.R. The committee recommended: (1) Approval and printing of the new standard operating procedures booklet of the committee on recognitions. (2) Historical development as noted be evaluated and considered as a necessary part of all standing committee standard operating procedures. (3) Every delegate have a booklet along with the nomination forms to be separately reproduced on colored paper—award of merit, Eleanor Clarke Slagle lectureship. (4) Sound structure in committee overlap be cited by members as good operational procedures to be considered for other committees. In addition to these recommendations, it was requested that the recommendation for financial assistance for the Eleanor Clarke Slagle lecturer be incorporated into the committee SOP.

All committee recommendations were approved.

Report accepted with thanks.

Registration committee. Board action requested on two items: (1) Revision of international reciprocity policy with regard to eligibility for writing the examination. (2) Prepayment of initial registration fee.

It was voted to accept the registration committee's proposed policy on "Eligibility for Writing the Examination for Registration" as submitted, with the exception of the change of format. (This policy published in the January/February, 1960, AJOT.)

It was voted to approve the committee recommendation on the prepayment of the initial registration fee, i.e., that all applications for admission to the registration examination be accompanied by a fee of \$27.00. Of this amount \$15.00 would be the examination fee, and \$12.00 the initial registration fee. In the event the applicant is found to be ineligible to write the examination, the total amount would be refunded. If he fails, he would receive a refund of \$12.00. (This policy replaces the one stating that all persons must

register within one year of passing the examination or re-pass it to be eligible for registration.)

The above changes will become effective starting with the June, 1960, examination applications.

Report accepted with appreciation.

OTHER BUSINESS

Screening of conference papers. The matter of pre-conference screening of papers presented at the conference by O.T.R.'s was considered. Suggestions included therapists as members of a committee to draw up recommendations bearing on both the presentations and cross-discussions of conference papers; possible involvement of the House of Delegates, the permanent conference committee, and the proposed reorganization of the annual conference plan.

The possibility was presented of having the president appoint a committee at the forthcoming midyear meeting, to study the matter.

No official action taken at this time.

CORRESPONDENCE

Joint council of Association of Occupational Therapists, Great Britain. Letter from the joint council expressing appreciation of the "ambassadorship" of Miss Franciscus and Miss Abbott in England and Scotland.

United Hospital Fund. A letter from Mrs. Helen White, director of the OT program of the United Hospital Fund, New York, concerned: (1) Desirability of establishing a training course for OT assistants. (2) Revision of syllabus for volunteers. They propose to emphasize training in attitudes to people, rather than skills. It was suggested that they send a letter putting this request on record.

It was voted to reactivate the committee to revise the AOTA syllabus for OT volunteers.

A letter was referred for Board information indicating that the successor to Mr. Laurel Nelson in the Minnesota Department of Public Welfare as supervisor of rehabilitation therapies, was not an O.T.R., but a person with a formal education in the area of music.

The meeting was adjourned:

Respectfully submitted,
Marjorie Fish, O.T.R.
Executive Director

Calendar of Events

June 23-26, 1960

Congress of the Canadian Physiotherapy Association, Canadian Occupational Therapy Association and Western International Conference of Occupational Therapy and Physical Therapy at Vancouver, B. C., Canada.

June 26-July 2, 1960

Conference of the American Physical Therapy Association, Penn - Sheraton Hotel, Pittsburgh, Pennsylvania.

November 13-17, 1960

Conference of the American Occupational Therapy Association, Statler Hilton Hotel, Los Angeles, California.

AOTA Conference

Statler Hilton Hotel
LOS ANGELES, CALIFORNIA
NOVEMBER 13-17, 1960

Headquarters for the 1960 conference is the fabulous Statler Hilton Hotel located in the heart of Los Angeles and adjacent to all the major points of interest.

The conference planning committee is working hard on a stimulating program which will afford full provision for professional growth. In addition time will be afforded for sight-seeing and visits to Disneyland, movie and TV studios.

Conference highlights will be announced in the June issue of AJOT and it is hoped that many OT's will make the westward trek in November. The California delegation promises an interesting, worthwhile time for all.

Also watch for future announcements about a post-conference trip to Hawaii personally escorted by Satoru Izutsu, O.T.R., a native of the Islands.

Pre-Vocational Program . . .

(Continued from page 60)

ity, proper attendance, approach to work and perseverance. Once a client builds up good work habits, work tolerance and productive speed, he is discharged and referred to the vocational rehabilitation service for the TOWER vocational evaluation. In a pre-vocational program a client spends from two weeks to six months before being discharged. The length of his program depends on his readiness for a TOWER vocational evaluation.

In a vocationally oriented rehabilitation center there is a need for the occupational therapist in the pre-vocational unit and vocational counselor in the vocational evaluation unit to work closely together to serve the client's physical, emotional and vocational needs. Through better understanding between these two professional disciplines, a client is given ample opportunity to improve his work performance for eventual entrance into a vocational program. Through the combined team approach a client is better prepared for the realistic demands which competitive industry places upon him.

BIBLIOGRAPHY

- Bridges, Clark. *Job Placement of the Physically Handicapped*. New York: McGraw-Hill, 1946.
Cranfield, H. V. "Assessment of the Working Capacity of the Physically Disabled Person," *Occupational Therapy and Rehabilitation*, June, 1947.

Ireland, Karl L. "Evaluating Work Behavior in Occupational Therapy." *Journal of Rehabilitation*, January-February, 1957.

Redkey, Henry. "The Function and Value of a Pre-vocational Unit in a Rehabilitation Center." *American Journal of Occupational Therapy*, February, 1957.

Super, Donald E. *Appraising Vocational Fitness*. New York: Harper and Brothers, 1949.

Urdane, William A. "Vocational Counseling with the Severely Handicapped." *Archives of Physical Medicine and Rehabilitation*, October, 1953.

U.S. Department of Labor. *Estimates of Worker Training Requirements for 4,000 Jobs*. Washington: U.S. Government Printing Office, 1956.

U.S. Office of Vocational Rehabilitation. *The Pre-vocational Unit in a Rehabilitation Center*, Washington: U.S. Government Printing Office, 1955.

Delegates Division

COLORADO

Delegate-Reporter, Frances Miller Thompson, O.T.R.

The theme of the general meetings of the Colorado Occupational Therapy Association this year has been that of "Stop, Look, and Evaluate." The forty active members were encouraged to do just that when they met at the Broadmoor Hotel in Colorado Springs in November to hear the president of Colorado Woman's College give an inspiring speech on "Therapy for Therapists." A business meeting preceded lunch during which the delegate's report and highlights of the national conference were given.

Our introspective mood continued in January when the members had as their guest, Dr. Vernon T. Thompson, chief psychologist and rehabilitation counselor at National Jewish Hospital, who spoke on the subject of "The Self as a Therapeutic Tool." A report of the meeting of the curriculum study project held in New York City was given by Neil Kooiman and Elizabeth Nachod. Also in the month of January, an item writing workshop was held at Fitzsimons Army Hospital. Thirteen therapists participated at the one day meeting, and approximately forty registration examination questions were submitted to the American Occupational Therapy Association.

Further study of ourselves as therapists and our professional problems was made in February. A panel discussion, with Neil Kooiman as moderator, was the program for the meeting. Panel members included three members of the medical advisory board, and three registered occupational therapists. The discussion concerned administrative problems pertaining to prescription and evaluation of progress in occupational therapy.

The annual dinner meeting of the physical, speech and occupational therapists of Colorado was held at the officers' club at Fitzsimons Army Hospital in March. In April, the group focused its attention on recruitment techniques when Mr. Hollis Hoff from the information service at Colorado State University spoke to the members about good, effective advertising, particularly in the use of spot radio commercials. Spot announcements were written by the members for future use in the state recruitment program of occupational therapists.

In August, 1958, the board established the Helen Tobiska Rea scholarship fund in memory of Mrs. Helen Tobiska Rea, who died on July 2, 1958. At the annual business meeting in May, the two students from Colorado

State University who received scholarships from the association, were introduced to the membership.

OFFICERS

PresidentCornelius A. Kooiman, O.T.R.
Vice-presidentVirginia Gordon, O.T.R.
Recording secretaryElnora Gilfoyle, O.T.R.
Corresponding secretaryChloe M. Nelson, O.T.R.
TreasurerAven Hyatt, O.T.R.
DelegateDonna Harper, O.T.R.
Alternate delegateB. Gayle Thelander, O.T.R.

SOUTHERN CALIFORNIA

Delegate-Reporter, Jeannine Dennis, O.T.R.

Southern California Occupational Therapy Association members set as their goal for the year the strengthening of their professional organization by stimulating interest, attendance, and participation in local and national occupational therapy affairs. Results of the year's efforts were very satisfying, for interest and thus attendance were stimulated by programs which were skillfully planned and presented through inter-committee efforts. Occupational and physical therapists turned out 250 strong for the "Techniques Demonstration" which stressed ways in which their respective treatment areas co-ordinate and reinforce each other's programs. Northern and Southern California Associations combined professional and social pursuits during an April weekend in Fresno, a geographic half-way rendezvous. Members bridged local-national affairs during the year by demonstrating active concern in the affairs of the House of Delegates. A pioneer occupational therapist, Miss Elsie Geerts, was honored for her foresight and endeavors which so greatly influenced the establishment of the School of Occupational Therapy at the University of Southern California and the early development of occupational therapy in the West. During a program in her honor, the Chancellor of the University of Southern California, Rufus B. von KleinSmidt, spoke and Miss Geerts received a plaque from our association in remembrance of the occasion.

Participation of members has grown steadily as "Conference-1960-Los Angeles" approaches. The small conference committee which has been busily but quietly preparing the groundwork for two years under the guidance of Miss Janet Stone, has blossomed forth into an active and enthusiastic force. Southern California's new O.T.R.'s, students, transfers, and old-timers, are now meeting the challenges which confront hosts the year of a national conference. Chairman of the ways and means committee, Miss Florence Cromwell, introduced and "pushed" the familiar and useful red stamp folders. The success of their sale is now helping to meet conference expenses and also helped to win Florence's appointment as the chairman of the 1960 conference. Participation of all members of the Southern California Occupational Therapy Association in "Conference-1960" in no way halts the vitally important activities of those members who are also chairmen of national standing committees: Miss Angeline Howard, council on education; Mrs. Julie Shaperman (nee: Werner), special studies committee; Miss Elizabeth Yerxa, committee on student affiliations. Elected to a second term as a member of the AOTA Board of Management is another Southern Californian, Miss Mary Reilly, and Miss Carlotta Welles has been serving with the staff of the American Occupational Therapy Association as a member of the curriculum study project.

OFFICERS

PresidentLucile N. Rosenthal, O.T.R.
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Alternate delegateMyrla Smith, O.T.R.

HAWAII

Delegate-Reporter, Shirley Tolliver, O.T.R.

The Occupational Therapy Association of Hawaii has had a busy year. In March, we held an institute on geriatrics in conjunction with our annual meeting. Evelyn Bengson, O.T.R., of Washington State was our main speaker. She was ably assisted by key people in the various paramedical services on Oahu. Proceedings of the institute were printed for future reference.

Our association meets once every other month and the program committee has produced a series of stimulating subjects for our meetings. A special meeting was called in April to greet Mrs. Nimbkar, who spoke to us about occupational therapy in India.

The recruitment chairman attended the western recruitment workshop held in California and brought back valuable ideas and suggestions.

As one scholarship student graduated from Mount Mary College in January, another began studies at the Boston School of Occupational Therapy. Besides our undergraduate scholarship, which is financed by a yearly sale of calendars, the scholarship committee is working out details for a scholarship for therapists interested in graduate study.

A new committee has been formed to investigate areas where occupational therapy can be of service in the islands. Our association is represented on the Oahu Health Council, the Governor's Committee on Rehabilitation, and has participated in the planning of the Governor's institute on rehabilitation which was held in January.

Future plans include making preparations for a post-convention workshop and luncheon in November.

OFFICERS

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KENTUCKY

Delegate-Reporter, Janet Wimpleberg, O.T.R.

The monthly meetings of the Kentucky Occupational Therapy Association have been interesting and varied this past year. Our goals have been: (1) recruitment and publicity, (2) to interest non-working occupational therapists, and (3) to offer diversified programs.

Under several recruitment chairmen, the Kentucky Occupational Therapy Association again participated with the health careers committee of the Health and Welfare Council of Louisville and Jefferson County. Speeches, slides and movies were used in the high schools. Moreover, two individuals were granted scholarships by the National Foundation scholarship committee.

In the Lexington area, Mrs. Jay Brash, O.T.R., was on the radio program "Date with Doris" which was devoted entirely to occupational therapy. She returned for a second time and was honored by the radio station, as this program was considered the year's best radio pro-

gram. Talks and movies to high school and college students were the other recruitment and publicity efforts in Lexington.

The programs for 1959 were very interesting and diversified. Some of the highlights were: a travelogue of Japan by one of our occupational therapists who had just returned; a ways and means program concerned with jewelry; a day's visit at one of the state mental hospitals with craft groups, non-professional groups, and psychiatrists; a seminar on "The Disabilities of the Hand" held jointly with the Kentucky chapter of the American Physical Therapy Association. Because of the success of the combined meeting, we are now making it an annual event.

OFFICERS

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Alternate delegate Bette E. Nylund, O.T.R.

NEBRASKA

Delegate-Reporter, H. Dwyer Dundon, O.T.R.

The Nebraska Occupational Therapy Association has had a quiet but interesting year. Sixteen registered therapists became members in our association during the past year which is almost 95 per cent of all the O.T.R.'s in Nebraska.

Our early spring meeting was held at the Norfolk State Hospital, Norfolk, Nebraska. A social worker talked and discussed his role in relationship to the occupational therapist. The June meeting was held at the Nebraska Psychiatric Institute in Omaha where almost 80 per cent of the membership were enrolled at a psychiatric occupational therapy institute-workshop. "Communication: Key to Treatment" was the title and theme of the institute-workshop and many of the members not only contributed much to the institute but actively participated in its skits and discussions. The election of officers was also conducted during this meeting.

Our third meeting was held jointly with the Nebraska Hospital Association at Lincoln, Nebraska. The manager of the Omaha Tandy Leather Company demonstrated new techniques in leather and some of the new products now carried by this company.

The December meeting held in Omaha was primarily a report of the annual conference. Though few members were able to attend, much discussion was carried out in relation to national and state occupational therapy affairs. Some plans were formulated for a more energetic 1960 at this meeting and hopefully we will be able to pursue them.

OFFICERS

President Marion Labusohr, O.T.R.
Vice-president Eleanor Barns, O.T.R.
Secretary Mary A. Timlin, O.T.R.
Treasurer Jacqueline Adams, O.T.R.
Delegate H. Dwyer Dundon, O.T.R.
Alternate delegate Clayton Millard, O.T.R.

A brochure of films, publications and exhibits entitled "Vocational Rehabilitation of Handicapped Homemakers" is available from the School of Home Economics, University of Connecticut, Storrs, Connecticut.

WESTERN PENNSYLVANIA

Delegate-Reporter, Elizabeth Whitaker, O.T.R.

With the development of new medical centers and the enlargement of existing facilities, public relations continues to be a major need. The Western Pennsylvania Occupational Therapy Association continues to have recruitment and public relations as their principal effort and other efforts are being added as the association strengthens.

The growing number of rehabilitation centers has increased the total of therapists in the area. In turn, unfortunately, this pressure for therapists has caused other departments to run short-handed and one small set-up to close.

With more therapists in the area, there has been a show for a more active association. Monthly meetings have been requested. A news letter is being inaugurated.

Pittsburgh has long been the center for the association but with the opening of a large rehabilitation center in Johnstown this area is gaining in prominence. The holding of meetings is being adjusted so that this area can be further integrated into the group.

The Johnstown area has been a leader in arousing our interest in participation in health fairs for better public relations. Our booth at this annual fair is being increased in size at request of the fair authorities. A health fair was included as part of Pittsburgh's bi-centennial celebration. Planning, financing and manning a booth at this 10-day fair has been the largest endeavor in the last year for our association. This project not only improved public relations as 35,000 attended, but helped our members realize that our association is only as strong as the participation of each individual member. We look forward to an active and informative year.

OFFICERS

President Dorothy J. Wirt, O.T.R.
Vice President Richard Young, O.T.R.
Secretary Ann Thompson, O.T.R.
Treasurer Betsy Jean Fraser, O.T.R.
Delegate Elizabeth Whitaker, O.T.R.
Alternate delegate Virginia Strandvold, O.T.R.

A new publication, *Rehabilitation Record*, is a bi-monthly magazine dealing with activities of the Office of Vocational Rehabilitation and programs supported by OVR. A yearly subscription (\$1.75) may be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C.

All occupational therapists should be interested in the bill H.R. 3465, commonly called the Independent Living Bill, and H.J. Res. 494, a resolution to aid children handicapped by deafness. Copies of the bill and resolution may be obtained from Representative Carl Elliott, House of Representatives, Washington 25, D. C.

Reviews

BESCHAFTIGUNGSTHERAPIE — EINFUEHRUNG UND GRUNDLAGEN (Occupational Therapy—Introduction and Principles) G. Jentschura, M.D., Editor. Stuttgart: Georg Thieme Verlag, 1959, 299 pp., DM 45.

This handsome, timely volume was designed as a textbook for the occupational therapy school founded in 1953 in Hanover and the ones currently being established in Munich and Berlin. Although the concept of occupational therapy has found widespread acceptance in German medical circles over the past 60 or more years, only within the last decade was the need for professional, trained therapists sufficiently recognized to result in the establishment of approved courses. With one exception the book was written by physicians. Their thoughtful interest in and thorough understanding of the principles, methods, values and limitations of OT and their stated acceptance of its unique contribution to medical practice make this a valuable source book, far beyond the limits of an instructional text.

Following a brief survey of the common techniques, written by a practicing therapist, the book discusses the three large treatment areas: physical disabilities (with an excellent unit on applied kinesiology), tuberculosis, and psychiatry. The first of these, a pioneering experiment in Germany, has already developed a sound rationale, a clear terminology and a valuable body of experience. In the other areas OT has had to come to terms with the established concept of "Arbeitstherapie," the equivalent of work tolerance in TB, industrial therapy in psychiatry. Especially in the latter, exciting new concepts are being developed, but with less than five years experience, these are still very much in the formative stage. The whole work is characterized by a lack of rigidity, an eagerness to explore, a willingness to grow. At the same time, firm realistic limits are constantly being enunciated to focus OT on what it can do best or uniquely, not allowing its limited strength to be dissipated where its contribution is doubtful or redundant.

As a recent development, OT in Germany has been able to draw from the best experience the world over, as reflected in the range of references, from E. Gordon to K. Nimkar to J. W. v. Goethe. It is sincerely hoped that this very stimulating volume with its positive, realistic concepts of OT will be available to English-speaking therapists and their medical mentors in translation.

—Antje Price, O.T.R.

A MANUAL FOR OCCUPATIONAL THERAPISTS ON PREVOCATIONAL EXPLORATION. Jack Granofsky, Ph.D. Dubuque: Wm. C. Brown Co., 1959, 48 pp., \$1.75.

Prevocational exploration as an agency rendered service has developed in order to meet the total needs of patients. The occupational therapist is in a position to observe attributes necessary to successful employment, and so it seems that our profession is serving this need in many places. In order to help those who feel a lack, the author outlines the steps in prevocational exploration to give a general understanding of the processes and how they relate to other disciplines such as medicine, surgery, psychiatry, psychology and social work. He discusses construction of occupational tests suitable for the patient records kept by the therapist. The author feels that this can be a contribution of occupational therapy if we understand why and what we are trying to do.

—Ruth L. Melsheimer, O.T.R.

OCCUPATIONAL THERAPY AS A LINK IN REHABILITATION. Proceedings of the second international congress of the World Federation of Occupational Therapists. New York: American Occupational Therapy Assoc., 1959, \$2.50.

The papers of eighteen eminent physicians and nine outstanding occupational therapists are printed as they were given at the congress of the World Federation of Occupational Therapists. The general headings of different sessions are *Rehabilitation of Physical Disabilities; Rehabilitation of Children; Psychiatry, Neurology; Geriatrics*. The papers give specific aspects of the general topics. The summary of one panel discussion and of nine group discussions of topics of vital interest to occupational therapists is also included in the book.

It is also possible to get a feeling of the enthusiasm of the therapists attending and of the vitality of the profession throughout the world when reading the messages of the opening session as given by the official delegates from W.F.O.T.'s member countries.

In giving the summary of the congress, Miss Betty Collins, T.M.A.O.T., points out that the papers and discussions bring out the fact that there has been progress in a variety of specialized fields and research in all fields of occupational therapy. Miss Collins mentions that better equipment has been devised and that assessment, and treatment based on physiological concepts is being developed. She continues, "In the psychiatric field attention is shifting from the treatment of symptoms to psychodynamics and the basic needs of the individual. In other words we are emerging from a stage of 'trial and error' to a point when we may justifiably claim to have scientific reasons for the methods we use."

Miss Collins continues the summary of the congress by expressing the fact that an impression of progress in cooperation and an impression of increased humanitarianism was gained along with the impression of knowledge as mentioned in the paragraphs above.

A copy of the proceedings is probably owned by each member who attended the congress by virtue of the fact that he knows of the value of the book. It is a worth while addition to the library of every occupational therapist.

—Eunice Ford, O.T.R.

INTRODUCTION TO INDUSTRIAL THERAPY. Harold Shalik, O.T.R. South Miami, Fla.: Loretta Shalik, 1959, 89 pp., \$6.95.

As an initial study in the field of industrial therapy, this book is important and necessary. To call it a full-fledged text, however, would be misleading. It does not dig into theoretical concepts.

The publication describes the scope of industrial therapy (IT) putting it within the bracket of occupational therapy administration. Relationships between IT and other hospital departments and persons are acknowledged. Details of organizing an IT program are outlined, records are illustrated, and a final chapter discusses operational procedures. This last section brings into focus the job analysis, the job description, the orientation of patients to the work assignment, of staff members to a hospital industry program, and comment on patient treatment. A brief survey of "remunerative activities" also is included.

One comes away with the sense of a manual. It is complete if you are looking for the *what* of IT, but theory or the *why* is inadequate.

Mr. Shalik comments that "the successful (IT) program maintains a proper distance between practice and theory, using common sense as its function." One

can feel the author's concern for the theoretical therapist with his thumb in thin air, but that very same common sense may lead some to say theory and practice are inseparable.

More important than a description right now is some examination of modern work concepts by IT. J.A.C. Brown in *The Social Psychology of Industry* (Penguin Books, 1954) has pointed out changing ideas on the nature, conditions and motivation to work. Some of these knock our generalizations into a cocked hat. Another writer, the American psychiatrist Dr. Louis Linn, interprets work from a psychodynamic viewpoint. If we have some theoretical foundation underlying our understanding of work outside of the hospital, it should follow that our in-hospital industrial treatment of a mentally ill person is not an insulated approach separated by a semi-bureaucratic barrier from reality.

A comment about the physical makeup of the publication should be made. One might expect that for the price of Mr. Shalik's book it would be bound with a hard cover and in regular print. This is not the case. Also, a careful proofreading would have eliminated some unnecessary misspelling and grammatical errors.

The book is essentially a summary of current IT practices and the author is to be commended for opening the discussion. This reviewer feels, however, that Mr. Shalik has not seriously entertained the possibility that IT has the potential to emerge as a full-fledged adjunct to the total treatment plan in a hospital. Some thoughtful consideration of the theory of work might well open the eyes of practicing IT's (and OT's as well). Mr. Shalik has put his cards on the table. We should accept the challenge of his preface to express ourselves.

—Bruce Fessenden, O.T.R.

Georgia Warm Springs Foundation GRADUATE COURSE

Physical Therapy and Occupational Therapy In the Care of *Neuro-Muscular Disease*

This course is open to graduates of approved schools of physical and occupational therapy. Such graduates must be members of the American Physical Therapy Association and/or American Registry of Physical Therapists, or American Occupational Therapy Association.

Entrance dates: First Monday in January, April and October.

Course I—Emphasis on care of convalescent neuro-muscular disease with intensive training in functional anatomy, muscle testing, muscle reeducation and use of supportive and assistive apparatus. This course is complete in itself.

Course II—Three months duration with course I prerequisite. Emphasis on care of severe chronic physical handicaps with intensive training in resumption of functional activity and use of adaptive apparatus.

In-Service Training Program—Fifteen months duration at salary of \$225 per month plus full maintenance, increasing to \$250 per month at the completion of nine months. This program includes training in course I and II.

Tuition: None. Maintenance is \$100 per month. For scholarship to cover transportation and maintenance for course I and II, contact The National Foundation, 800 2nd Avenue, New York 17, N. Y. (Scholarships require two years of experience.)

For further information contact:

ROBERT L. BENNETT, M.D.
Medical Director

Georgia Warm Springs Foundation
WARM SPRINGS, GEORGIA

THE CLINICAL TREATMENT OF JUVENILE AMPUTEES (1953-1956). New York State Department of Health Report No. 115.26C. Sidney Fishman, Ph.D., Project Director. Research Division, College of Engineering, New York University, New York. 1958, no charge, 85 pp.

A sample of 159 upper extremity amputees of ten months to fifteen years of age was drawn from thirty-three clinics located in various sections of the United States. The types of amputations include 104 below elbow cases, 36 above elbow, 6 shoulder disarticulation, and 13 bilateral cases.

A bibliography lists descriptive material written about specific aspects of treatment for the young amputee. This study presents a definition of, and conclusions drawn from, specific methods of carrying through all aspects of treatment. Narration, photographs, diagrams, and charts are used to evaluate the effects of the prosthetic service on the personal and social adjustment of the child, and to discuss prescription of the prosthetic components, check out of the completed new prosthesis, and training in the use of the artificial arm. It is expressed in the study that data should be organized in a way which will permit comparisons of the findings of different clinics throughout the country.

—Eunice Ford, O.T.R.

PSYCHOLOGICAL SERVICES IN VOCATIONAL REHABILITATION. Salvatore G. DiMichael, Ph.D. Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Vocational Rehabilitation, 1959, 53 pp. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price twenty cents.)

An evaluation of the numerous contributions made by the psychological services in vocational rehabilitation is presented in compact and comprehensive literary form in this bulletin. Describing the large variety of such services, the author distinguishes between "direct" and "indirect" activities. The most frequent service, it is noted, covers psychological testing and evaluation. Among others are counseling and guidance, psychotherapy, research, and the publication of much data that is useful to allied professions engaged in programs for the handicapped. One section contains significant information dealing with the professional standards of training and experience required by the American Psychological Association for qualified psychologists.

—Bertha J. Piper, O.T.R.

APHASIA HANDBOOK FOR ADULTS AND CHILDREN. Aleen Agranowitz, Mildred Riddle McKeown. Ann Arbor, Michigan: Edwards Brothers, Inc., 1959, 103 pp., \$3.25.

This material was written by speech therapists for use by anyone doing retraining of aphasics in speech, reading and arithmetic skills. It takes up the various defects in aphasia (such as apraxia or agnosia) defines them and gives exercises with directions for overcoming these difficulties. The exercises are simple, clear and well illustrated, so that members of a family as well as professional people can follow them even though these people may not be familiar with aphasia.

There exist many more techniques in training an aphasic adult or child in the above skills than are here presented, but this book can be very helpful to anyone wanting to work with such a patient who does not know much about aphasic conditions. Even those who have worked with aphasics may gain a few new ideas.

—Adaline J. Plank, O.T.R.

GRAY'S ANATOMY OF THE HUMAN BODY. Henry Gray, F.R.S., revised and edited by Charles Mayo Goss, M.D., Philadelphia; Lea Febiger, 1959, 1458 pp., \$17.50.

This 27th edition with its 1174 illustration marks the 100th anniversary that Gray's *Anatomy* has been used in medical teaching and practice. This edition is claimed to be one of the most thorough revisions made since the text's inception. Some of the many features of this edition are the three divisions of the cardiovascular system: heart, arteries, and veins, each with its own section on embryology. The chapter on the heart is completely rewritten with new additional illustrations. Arteries of the upper abdomen are described more fully including statistics on variations. The sections on the central nervous system and the endocrine system have been rewritten in a more simplified manner and include more illustrations. The new Paris nomenclature has been adopted through the book. Although in its 27th edition, Dr. Goss points out, "The book is still dominated by the genius of Henry Gray both as an anatomist and as a teacher . . ."

—Lester M. Brower, M.A., O.T.R., R.P.T.

CREATING WITH PAPER, Pauline Johnson. Seattle: University of Washington Press, 225 pp., \$6.50.

This informative book, clearly and concisely written, could be a constant source of stimulus to occupational therapists using paper as an art medium. Its 225 pages have 460 excellent photographs, plus many diagrams, illustrating paper projects ranging from simple to complex. Specific instructions are given for cutting, curling, bending, shaping, scoring, constructing volumes and relating planes. Learning these techniques leads to exploring the potentials of paper for creative sculptural forms. Holiday decorations, bulletin boards, displays, stand-up constructions and trees are only a few of the topics covered.

—Majorie M. Collins, O.T.R.

A COMPREHENSIVE DICTIONARY OF PSYCHOLOGICAL AND PSYCHOANALYTIC TERMS. Horace B. English and Ava Champney English. New York: Longmans, Green & Co., Inc., 1958, 594 pp., \$10.75.

New terms or forgotten meanings in psychology and psychiatry sometimes baffle the occupational therapist working and studying in the field of psychiatry in his efforts to correlate occupational therapy. His bewilderment in what appears to be a multitude of obscure concepts with seemingly little relationship to what he has learned of basic sciences, can be clarified by this up-to-date, comprehensive dictionary of over 13,000 terms. Although not inexpensive, this dictionary would be a most valued addition to a personal or department library.

—Marion Neumann Hartman, O.T.R.

THE CHRONICALLY ILL. Joseph Fox, Ph.D. New York: Philosophical Library, Inc., 1957, \$3.95.

The author gives a global picture of the scope and treatment methods of chronic illnesses. He describes the effect of chronic illness on the individual concerned and the effect on society. He stresses the necessity for medical and institutional planning for the existing and coming needs in the area of chronic diseases in geriatric patients as well as those patients in the younger age groups.

—Eunice Ford, O.T.R.

A PSYCHIATRIC GLOSSARY. Committee on: Public Information, American Psychiatric Association. New York: Mental Health Materials Center, 1790 Broadway, 48 pp., \$.50.

This new glossary gives the meanings of over 400 words most frequently used in psychiatry. Because it is small and thin, it makes a most suitable pocket substitute for the glossaries commonly found at the end of abnormal psychology texts.

—Marion Neumann Hartman, O.T.R.

CAST OFF THE FETTERS, THE AUTOBIOGRAPHY OF A DREAM. Carl Burrows. Chicago: Regent House, 1959, 186 pp., \$2.95.

In clear, simple style a polio paraplegic describes his trial and struggles in search of a life of adventure. It is his dream to own and operate a boat in Alaska. To accumulate the necessary money, he takes various small jobs but seems to prefer those least suited to his physical limitations. Eventually he manages to purchase the boat and spends a financially and physically precarious summer fishing near Juneau, Alaska.

Written without bitterness or self-pity, the book provides insight into the employment problems of the handicapped before society had become interested in physical rehabilitation.

—Jane Trout, O.T.R.

CLASSIFIED ADVERTISING

Classified advertising accepted for POSITIONS WANTED and POSITIONS AVAILABLE only. Minimum ad \$4.00 for 3 lines, each additional line \$1.00. (Average 56 spaces per line.) Classified display, boxed, \$5.00 per column inch. Copy deadline first of each month previous to publication.

POSITIONS AVAILABLE

OCCUPATIONAL THERAPISTS for California's progressive programs in State mental hospitals and for physically handicapped children in special schools. Opportunities for imaginative and resourceful therapeutic activities. Eligibility for registration with the National Registry of the American Occupational Therapy Association is required. No experience is needed to start at \$415 a month. Positions in schools under the Crippled Children Services program are open also to experienced occupational therapists at \$458 a month. Attractive employee benefits. Secure details from State Personnel Board, 801 Capitol Avenue, Sacramento 14, California.

Occupational therapist wanted for full time position in accredited psychiatric hospital. Salary based on experience, minimum \$4200.00 annually. Mrs. Heide F. Bernard, Executive Director, Hall-Brooke Hospital, Greens Farms (Westport—1 hour from New York by train or car), Connecticut.

Wanted: Registered occupational therapist II (director), salary \$4,472 to \$5,564, depending on qualifications. Relatively new department with growth possibilities. Paid vacation, sick leave, legal holidays, excellent retirement system, group life insurance. Apply: Peter W. Bowman, M.D., Supt., Pineland Hosp. & Training Center, Box C, Pownal, Maine.

Openings for two staff occupational therapists, registered, or eligible for registration. Opportunity to work in one of country's finest cerebral palsy clinics under experienced superior. Advantages of correlation with interesting research. Salary commensurate with education and experience. Fringe benefits, Blue Cross, Blue Shield health insurance, retirement and social security plan. Contact—Personnel Director, Indiana University Medical Center, 1100 West Michigan Street, Indianapolis 7, Indiana.

Registered occupational therapist (career civil service) wanted, 520-bed general medicine and surgery hospital with bed allocation for TB and NP services, affiliated with Vanderbilt Medical School. Write: Manager, Veterans Administration Hospital, Nashville, Tennessee.

Staff occupational therapist opportunities in psychiatric or rehabilitation areas. Excellent chance for advancement. Competent supervision, professional staff and assistants. Both in and out patient work. 40 hour week, vacations, sick leave, holidays, insurance, other benefits. Attractive industrial city of 200,000 with cultural and recreational advantages. Inquire Personnel Department, Iowa Methodist Hospital, Des Moines, Iowa.

Registered occupational therapist for staff position in new, modern hospital-school for handicapped children in city of 70,000. Case load of cerebral palsy, polio and other orthopedic disabilities. Expert medical supervision and coordinated program. Beginning salary \$4,050 with liberal allowance for experience. Three 3-week vacations with pay. Liberal personnel policies. Excellent opportunities for advancement, education and research. Write or call Keith Newcomb, Asst. Dir., Crippled Children's Hospital-School, Sioux Falls, South Dakota.

Occupational therapists required by Veterans Administration hospital. Salary ranges: Non-supervisory, GS-5—\$4,040 to \$4,940 per annum; Supervisory, GS-7—\$4,980 to \$5,880 per annum; Supervisory, GS-9—\$5,985 to \$6,885 per annum. General information: immediate openings for occupational therapists with Veterans Administration neuropsychiatric hospital. Positions are in the career civil service. Hospital located in southeastern Pennsylvania, accessible to New York and Philadelphia. Retirement plan. Liberal sick and annual leave. Opportunities for advancement. If desired, bachelor quarters available at low cost. Applications: for forms and further information call, write, or visit VA Hospital, Coatesville, Penn., Phone: 2380, Ext. 206.

Staff therapists are wanted for chronic disease (all ages and geriatric program in a 2000 bed hospital and home affiliated with New York Medical College. Positions are available in children's rehabilitation (cerebral palsy), adult rehabilitation, and hospital-home maintenance program. Student training will begin in 1960. Seven hour day, five day week, four weeks paid vacation, eleven holidays, twelve days sick benefit, six hour day for three summer months. Salary \$4250. Write Mrs. Carolyn Aggarwal, O.T.R., Bird S. Coler Hospital and Home, Welfare Island, New York 17, New York.

Registered occupational therapist II—supervisory position. Planning and directing program for 2,500 bed mental hospital. Salary range \$4,452-\$5,460. Three weeks paid vacation. Two weeks sick leave, legal holidays. Social security and retirement system. Group life insurance. Situated in capital city with excellent cultural and recreational facilities. Write for details and application to Mr. E. H. Tilley, Personnel Officer, Dorothea Dix Hospital, Raleigh, North Carolina.

OTR to head OT department in large, modern tuberculosis hospital in suburban Cleveland. Near excellent transportation, recreational and shopping facilities. Paid vacation and holidays, liberal sick leave cumulative to 90 days, retirement plan, 40-hour week. Full maintenance available at \$40 monthly, including garage and laundry. Write: Director of Rehabilitation, Sunny Acres Hospital, Cleveland 22, Ohio.

Occupational therapists—\$410-\$446 monthly, 40 hour week. Immediate positions with medical and psychiatric patients in 6,000 bed hospital in metropolitan Detroit. Up to three weeks vacation after one year. Citizenship and OT degree required, OT certificate preferred. Write: Wayne County Civil Service Commission, 628 City-County Building, Detroit 26, Michigan.

Opening for registered occupational therapist in interesting rehabilitation center. In and out patient center for wide variety of disabilities covering all ages. Excellent medical supervision. Functional program includes muscle re-education, ADL, evaluation of need and use of adapted equipment, wheelchairs, assistive devices, and vocational assessment. Fringe benefits include Blue Cross, Blue Shield, life insurance, social security, short training courses as indicated, 3-week paid vacation and sick leave. Salary commensurate with experience. Contact: Administrator or Jean Godfrey, Chief O.T., Institute of Physical Medicine and Rehabilitation, 619 N. E. Glen Oak Avenue, Peoria, Illinois.

Occupational therapist in private psychiatric hospital (O.T.R.). Work includes recreation and entertainment as well as the occupational therapy program for both men and women. Maintenance is provided. Salary open. Apply to Clifford D. Moore, M.D., Medical Director, Stamford Hall, Stamford, Connecticut.

Northern Wyoming—immediate opening in new rehabilitation center. Salary \$4,224 for 1 yr. experience with increase of \$192 for each additional year. Two weeks vacation plus 1 professional meeting and 1 educational course yearly. Major medical plan. Challenging position for OTR with pioneer spirit in treatment media, organization and public education. Contact Patricia Kelsey, OTR, Gottsche Rehabilitation Center, Thermopolis, Wyoming.

Staff position with a future: where experimental programs and projects are under way, where we have combined therapy groups with OT and psychologists working together as co-therapists, where professional growth and progress is encouraged. William N. Starnes Jr., O.T.R., Wernersville State Hospital, Wernersville, Pennsylvania.

Supervising occupational therapist for the University of Virginia Children's Rehabilitation Center. 30 bed multidisciplinary in-patient unit plus out-patient case load. Treatment, by prescription, of functional nature. Experience in physical disabilities preferred. College community beautifully situated in the foothills of the Blue Ridge mountains. Security benefits. Pleasant working conditions and congenial associates. Contact Personnel Office, University of Virginia, 1416 West Main St., Charlottesville, Virginia.

Staff positions available in 500-bed teaching hospital for registered occupational therapists. Areas included are psychiatry, pediatrics and physical disabilities. Occupational therapy study program. Pleasant working conditions. University community. Contact: Personnel Office, University of Virginia, 1416 West Main Street, Charlottesville, Virginia.

Immediate opening for staff OTR interested in recreation. Excellent salary, liberal personnel policies, vacation. Write Miss Bettilou Purrman, O.T.R., St. Nicholas Hospital, Sheboygan, Wisconsin.

Immediate placement for registered qualified occupational therapist. Extensive expansion in rehabilitation program in state psychiatric hospital offers an opportunity for imagination and resourcefulness. Excellent experience available in treatment of children and adults. Only 30-minute drive from Richmond, Virginia. Opportunity for advancement. Hospital currently being modernized by remodeling and addition of new buildings. Mr. George T. Blaho, O.T.R., Director of Department. Salary \$4128 to \$5160. Contact Personnel Supervisor, Box 271, Petersburg, Virginia.

Help wanted female: OTR to head department in large private psychiatric hospital, 35 miles from New York City. Attractive salary. 5 day week. 4 weeks vacation. 7 holidays. Many fringe benefits. Write Box 70, American Journal of Occupational Therapy, 3514 N. Oakland Ave., Milwaukee 11, Wis.

Wanted—registered occupational therapists. Opportunities for team therapy, supervision, and research. Excellent interdepartmental communication. Salary: Therapist I—\$335-\$415, Therapist II—\$410-\$505. Civil service. Apply: Superintendent, Research Hospital, Galesburg, Illinois.

Positions available (2): chief occupational therapist; staff occupational therapist; for 100 bed rehabilitation center. Excellent possibilities for professional growth; graduate education available; good working conditions and liberal benefits. Salary dependent upon experience. Inquire: Executive Director, Home for Crippled Children, 1426 Denniston Avenue, Pittsburgh 17, Pennsylvania.

Wanted: therapist to direct occupational therapy in the psychiatric unit at Buffalo General Hospital, Buffalo, New York. Position available immediately, salary open, 4 weeks summer vacation, sick leave. Please write to: Miss Gail Drosendahl, O.T.R., Occupational Therapy, West Building 5, Buffalo General Hospital, Buffalo, New York.

Washington Hospital Center is organizing an occupational therapy unit and is recruiting one registered occupational therapist who will be directly responsible to the psychiatrist but will work closely with the physiatrist. In our new modern, completely air-conditioned hospital there are 800 beds, 33 of which are in the psychiatric unit. The daily average patient load in physical medicine is 80. The minimum salary for an inexperienced therapist is \$4000 a year. 40 hour week. 2 weeks vacation annually. Long term sick leave accrued to 60 days. Good opportunity for interested and qualified therapist. Apply: Personnel Office, Washington Hospital Center, 110 Irving St. NW, Washington 10, D.C.

Head occupational therapist vacancy in adult section of Metropolitan State Hospital. Salary range \$89 to \$113. Eleven miles from downtown Boston. Can start above minimum, depending on experience. 475 Trapelo Road, Waltham, Mass.

OTR for crippled children's school, June or September, 1960. Large, new, well-equipped department. Good salary, advancement, holidays, vacation, sick leave, insurance. Nine or twelve months position. Write Joe D. Ellis, Executive Director, Hugen School for Crippled Children, 3620 28th Street, Port Arthur, Texas.

Occupational therapist needed in children's hospital specializing in orthopedic and pediatric problems. Out patient program part of service. Complete occupational therapy wing part of physical facilities. Hours per day and salary open for discussion. Paid vacation and sick leave. Contact: Miss Ruth Beall, Administrator, Arkansas Children's Hospital, 804 Wolfe Street, Little Rock, Arkansas.

Opportunity for occupational therapist to work with retarded children up to 18 in a friendly community. Salary open. Reply in writing giving qualifications and experience. Doty House of Middletown, Inc., P.O. Box 182, Middletown, Ohio.

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Registered occupational therapist—immediate opening—well-equipped PM&R service. 480 bed hospital (GM&S, TB and psychiatric). Affiliated with medical school. In rapidly expanding community with large university. Starting salary—recent grad., little or no experience, \$4,040. Starting salary, experienced therapists, \$4,890. Write: Personnel Div., VA Hospital, Syracuse, N. Y.

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Immediate opening—registered occupational therapist (staff level) male or female, recent graduate or experienced, to work in active, expanding program in occupational therapy and recreation. 140 bed mental hospital for the acutely ill. Salary range \$3780 to \$4560. For details write Mrs. Wilma K. Morrow, O.T.R., Director of Occupational Therapy, Summit County Receiving Hospital, 330 Broadway East, Cuyahoga Falls, Ohio.

Occupational therapist for 100 bed private psychiatric hospital located in beautiful Baltimore suburbs. Registration desired but not as essential as personality for psychiatric patients. Please give personal qualifications, experience and consecutive references to cover professional career in first letter. Excellent opportunity for advancement in an expanding well established hospital. Salary depends on training and experience. Write: Dr. I. Taylor, Taylor Manor Hospital, Ellicott City, Maryland.

Three staff occupational therapy positions in a 900 bed teaching hospital. Openings in two occupational therapy sections: psychiatry, and physical disabilities and general conditions. Attendance at medical rounds, conferences, other educational opportunities. Closely affiliated with Western Reserve University School of Medicine. Psychiatric section is new and completely equipped. Physical disabilities and general section is in the process of being reactivated and expanded. For more information contact Janet Hoskins, O.T.R., Chief Occupational Therapist, University Hospitals of Cleveland, 2065 Adelbert Road, Cleveland 6, Ohio.

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For details write at once to Recruitment Unit, New York State Department of Civil Service, Box 24, State Campus, Albany, New York.

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WANTED: Pre-vocational supervisor for out-patient comprehensive rehabilitation program in university setting. Department works in close cooperation with occupational therapy. Salary commensurate with experience. Apply: Executive Directive, Medical Center Rehabilitation Unit, Box 86, University Station, Grand Forks, North Dakota.

One of the leading psychiatric institutes and large teaching center for all disciplines is accepting applications for staff therapists to work in progressive occupational therapy department. Excellent opportunity to gain experience in ideal psychiatric setting. Address Box 80, American Journal of Occupational Therapy, 3514 N. Oakland Ave., Milwaukee 11, Wis.

Wanted: director of occupational therapy department. Must have enthusiasm, imagination, vision and energy to enlarge and develop the department. Affiliated student, occupational therapy, teaching program. The O.T. is an integrated part of a comprehensive program with physical therapy, medical supervision, special education and speech for the cerebral palsied and speech handicapped. Starting salary, \$6,000. Reply to: H. O. Marsh, M.D., Director of Medical Services for Cerebral Palsy, Institute of Logopedics, 2400 Jardine Drive, Wichita 14, Kansas.

Help Wanted: registered occupational therapist for immediate opening. Starting salary \$4,800 per year with maximum over \$6,000. Complete maintenance available at \$30 per month. Fourteen-hundred bed, progressive, psychiatric hospital, 45 minutes from Kansas City. Apply Osawatomie State Hospital, Osawatomie, Kansas.

Immediate opening for an OTR in an out-patient cerebral palsy center. New building, well-equipped department; work as a team with physician, physical therapist and speech therapist. Good salary, ten paid holidays, four weeks paid vacation. If interested contact Miss Phyllis Burgess, Cerebral Palsy Center, 7 Sanford Ave., Belleville, N. J.

Immediate opening for OTR in a 224-bed new geriatric hospital and a 42-bed tuberculosis sanatorium combined. Pay range: \$4104 to \$4764, plus cost of living. Cost of living at present is \$353.60 annually. 40 hour week; 14 days paid vacation; 12 paid days sick leave; 7½ paid holidays; plus retirement, social security, hospitalization plan, and life insurance. For further information, write: O. Lindgren, Jr., Superintendent, Brookside, 3506 Washington Road, Kenosha, Wisconsin.

Do you enjoy beautiful scenery—outdoor sports?—The mountains, lakes and beaches are within the reach of Seattle, Washington. Firland Sanatorium has one immediate opening for a registered OT, another in June. Pleasant working conditions. Starting salary (no experience) \$338, higher if experienced. 40 hour week, vacations, sick leave, holidays, social security and state retirement. For further information contact: Miss Helen Peterson, O.T.R., Chief, Occupational Therapy, 1704 East 150th Street, Seattle 55, Washington.

Have You Tried?

Philip J. Dahlberg

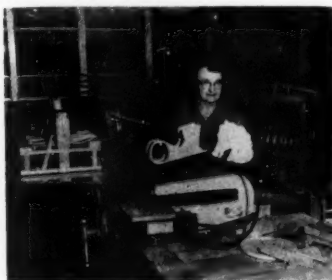
POWER TOOLS FOR OCCUPATIONAL THERAPY?

It is easy to visualize what could happen when handicapped children of cerebral palsy type operate power tools—but experience has proved otherwise in the occupational therapy department at the Orthopedic School, Racine, Wisconsin.

With cerebral palsy, muscular dystrophy, post polio, cardiac patients, Ellen Williams, O.T.R., has proved that the use of the power jig saw is safe, has psychological advantages and aids hand-to-eye coordination as well if not better than standard weaving and ceramics equipment. What is more, the tool has developed a marked increase in the attention span of the students. She has tested the use of an electrically powered jig saw with auxiliary attachments for six years. The results have been praise from parents, pride and increased interest from students—and nary a scratch or accident.

Experience has proved that any student five years and up can use this equipment, regardless of disability. Miss Williams has a small student whom she straps into a chair leaving his arms free to work. Another student is so weak he cannot press the treadle button of an electric sewing machine, yet he can handle the saw with ease.

The jig saw is adequately equipped with a fool proof blade guard and does not require additional safety devices. This guard is quite important for it eliminates any possibility of the child touching the blade.



Models produced by the children are shown by Miss Williams in picture to the left. Gradual curves are predominant in the models. In picture to the right, the student is using a sanding accessory to finish his woodwork. He is standing and strapped to a backrest.



Parents, though dubious at the outset, are 100 per cent in favor of the tool once they see the interest the child takes in it, the work they do, and how safe it is to operate. Many have purchased a duplicate for home use.

"Before turning the machine over to the children, be sure to familiarize yourself completely with its operation, simple as it is," advises Miss Williams. "Confidence is contagious and gets the students off to a good start." Her approach is this: she wheels or walks the students up to the jig saw, explains what it does, then gives them wood or plastic with a design outlined on it and shows them how to turn it on. She lets them take over from there. "We adhere strictly to the hands-off rule. The child must do everything himself."

"They do surprisingly good work," she says. "We give them patterns which, if an error is made, is easily corrected during the sanding operation. (Disc sander attachment is used for finish sanding and shaping.) No straight lines are used; soft, gentle curves are the best. There is no definite pattern as to what type of student does best. A tremendous sense of satisfaction and accomplishment is gained by working with a genuine, grown-up's power tool."

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* * *

Sax-Crafts (Division of Sax Brothers, Inc.) Milwaukee, Wisconsin, dealer and distributor of craft supplies in the occupational therapy field, have announced issuance of their new catalog, No. 60.

Sturdily bound to withstand hard wear, the catalog has now been expanded to 160 large pages, of standard letterhead size. The items listed include leather work, graphics, ceramics, enameling, metalworking, lapidary, sculpture, mosaic, woodenware, felt work, bead work, cane, raffia, and cork craft, as well as such off-trail crafts as candlemaking, Indian seed and feather craft.

A copy of the catalog is available to any occupational therapist who will write to SaxCrafts, 1103 North Third Street, Milwaukee 3, Wisconsin, on his letterhead.

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For the eleventh year, Amaco summer workshops in ceramics and metal enameling will be held during June, July and August and will be operated jointly by the American Art Clay Company and the John Herron Art School of Indianapolis. Four concentrated ceramic and three metal enameling courses are to be offered. Mr. Kenneth E. Smith is director of the school and instructors are ceramists from Amaco's regular staff. The curriculum is designed to aid the occupational therapist in introducing pottery, sculpture and metal enameling at any age level. A creative approach is stressed. Although the workshops are largely of the participating type, lectures, demonstrations and films supplement the program.

For detailed information write Ceramic Division, American Art Clay Company, Indianapolis 24, Indiana.

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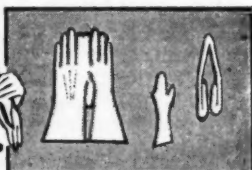
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- Awaiting accreditation:*
- Indiana University, Medical Center, 1100 West Michigan Street, Indianapolis 7, Ind. *Assoc. Prof. Patricia Laurencelle, O.T.R., Chairman, Dept. of O.T.*
- College of Medical Evangelists, School of Medicine, Department of Physical Medicine, 1720 Brooklyn Avenue, Los Angeles 33, California. *Miss Edwina Marshall, O.T.R., Educational Director, O.T. Curriculum.*
- Florida, University of, College of Health Related Services, Health Center, Gainesville, Florida. *Miss Alice C. Jantzen, O.T.R., Curriculum Chairman of O.T.*
- Washington, University of, School of Medicine, Department of Physical Medicine and Rehabilitation, BB-228 University Hospital, Seattle 5, Washington. *Miss Shirley Bowing, O.T.R., Head, Division of O.T.*

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